

# City of San Diego

**CONTRACTOR NAME:** RABC-ECC a Joint Venture

**ADDRESS:** 9834 River St. Lakeside, CA 92040

**TELEPHONE:** (760) 788-0800 **FAX:** (619) 440-7180

**CITY CONTACT:** Juan E. Espindola, Contract Specialist **Email:** [JEEspindola@sandiego.gov](mailto:JEEspindola@sandiego.gov)

**Phone No.:** (619) 533-4491, **Fax No.:** 619-533-3633

R. Jadan / J. Borja / LJI

## PROPOSAL DOCUMENTS 2-Step RFP



### FOR NORTH UNIVERSITY CITY FIRE STATION 50 DESIGN – BUILD

RFP NO.:	<u>K-18-1459-DB2-3</u>
SAP NO. (WBS/IO/CC):	<u>S-13021</u>
CLIENT DEPARTMENT:	<u>1912</u>
COUNCIL DISTRICT:	<u>1</u>
PROJECT TYPE:	<u>BC</u>

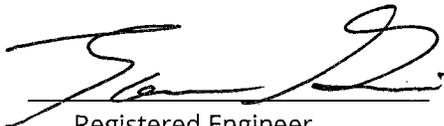
**THIS CONTRACT IS SUBJECT TO THE FOLLOWING:**

- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.
- PREVAILING WAGE RATES: STATE  FEDERAL
- APPRENTICESHIP

**PROPOSALS DUE:  
12:00 NOON  
NOVEMBER 15, 2017  
CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101  
ATTN: CONTRACT SPECIALIST**

**DEPUTY CITY ENGINEER**

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

  
Registered Engineer

9/28/17 Seal:  
Date



## TABLE OF CONTENTS

SECTION	PAGE NUMBER
1. REQUEST FOR PROPOSAL .....	4
2. SUBCONTRACTING PARTICIPATION PERCENTAGES .....	6
3. SELECTION AND AWARD SCHEDULE .....	7
4. INSTRUCTIONS TO PROPOSERS AND GENERAL CONDITIONS .....	8
<b>ATTACHMENTS</b>	
A. PROJECT DESCRIPTION AND SCOPE OF WORK .....	19
1. EXHIBIT A – BRIDGING DOCUMENTS .....	26
2. EXHIBIT B – CONSULTANT NARRATIVE BASIS OF DESIGN, INCLUDING MECHANICAL, ELECTRICAL, AND PLUMBING (MEP) & FIRE SPRINKLERS SYSTEM .....	60
3. EXHIBIT C – FIRE STATIONS AND FACILITIES DESIGN AND CONSTRUCTION STANDARDS .....	88
4. EXHIBIT D – GENERAL SERVICES FACILITY MAINTENANCE DESIGN STANDARD AND SPECIFICATION GUIDELINE .....	120
5. EXHIBIT E – BIOLOGICAL SURVEY REPORT .....	152
6. EXHIBIT F – RESTORATION AND REVEGETATION PLAN .....	250
7. EXHIBIT G – NOISE ANALYSIS .....	292
8. EXHIBIT H – TRAFFIC MEMORANDUM .....	350
9. EXHIBIT I – GEOTECHNICAL EVALUATION & RESPONSES .....	402
10. EXHIBIT J – PRIORITY DEVELOPMENT PROJECT (PDP) STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) AND STORM WATER REQUIREMENTS APPLICABILITY CHECKLIST DS-560 .....	513
11. EXHIBIT K – ARCHEOLOGICAL RESOURCES REPORT .....	746
B. INTENTIONALLY LEFT BLANK .....	768
C. INTENTIONALLY LEFT BLANK .....	769
D. PREVAILING WAGES .....	770
E. SUPPLEMENTARY SPECIAL PROVISIONS (SSP) .....	774
SUPPLEMENTARY SPECIAL PROVISIONS APPENDICES .....	807
1. APPENDIX A – MITIGATED NEGATIVE DECLARATION (MND) .....	808
2. APPENDIX B – FIRE HYDRANT METER PROGRAM .....	887
3. APPENDIX C – LOCATION MAP .....	901
4. APPENDIX D – SAMPLE OF PUBLIC NOTICE .....	903
5. APPENDIX E – SAMPLE CITY INVOICE WITH SPEND CURVE .....	905
6. APPENDIX F – HAZARDOUS LABEL/FORMS .....	908
7. APPENDIX G – ADVANCED METERING INFRASTRUCTURE (AMI) DEVICE PROTECTION .....	914
F. SITE DEVELOPMENT PERMIT (SDP) .....	921
G. EVALUATION AND SELECTION .....	929
H. PRICE PROPOSAL FORMS (COST ESTIMATE) .....	936
I. CERTIFICATIONS AND FORMS .....	943
J. DESIGN-BUILD AGREEMENT .....	960
K. RENDERINGS .....	963
L. CLIMATE ACTION PLAN (CAP) CHECKLIST & RESPONSE .....	968

## REQUEST FOR PROPOSAL

### 1. INTRODUCTION AND PROJECT OVERVIEW

#### 1.1. SOLICITATION

- 1.1.1. This is the City of San Diego's (City) second step in the two-step solicitation process to acquire Design-Build services for the **North University Fire Station 50 Design-Build** Design-Build project.
- 1.1.2. This RFP describes the Project, the required Scope of Work and Services, the Design-Builder selection process, the minimum information that shall be included in the Proposal for this Project, and the terms and conditions governing the Work. Failure to submit all requested information in accordance with the requirements of this Request for Proposal (RFP) may be cause for disqualification.
- 1.1.3. Each Proposal, properly executed as required by this RFP, shall constitute a firm offer which may be accepted by the City within the time specified in the Proposal.
- 1.1.4. This RFP will not commit the City to award a contract, to defray any costs incurred in the preparation of a Proposal pursuant to this RFP, or to procure or contract for the Work.
- 1.1.5. Selection announcements, contract awards, and all data provided by the City shall be protected by the Design-Builder from public disclosure. The Design-Builders desiring to release information to the public, shall receive prior written approval from the City.
- 1.1.6. The Design-Builder, by submitting a response to this RFP, agrees to provide the required services for the terms and conditions noted in this RFP and its exhibits if awarded by the City. The agreement and other terms and conditions are included in the Design-Build Contract and The GREENBOOK, The WHITEBOOK, and the Supplementary Special Provisions (SSP).
- 1.1.7. Any architectural firms, engineering firms, specialty consultants, or individuals retained by the City to assist in drafting the RFPs or the Project's preliminary design may not be eligible to participate in the competition with any Design-Build Entity without the prior written consent of City.

- 1.2. **SUMMARY OF WORK:** This is the City of San Diego's (City) solicitation process to acquire Design-Build services for a Design-Build project to design and construction of a new fire station of approximately **16,077** SF which will accommodate 10 crew members and will include three apparatus bays for a fire engine, and ambulance; dorm rooms, kitchen, watch room, ready room, station alerting system, and training classroom. **Work and Services required of the Design-Builder will include design, construction, and startup of the Project. The Design-Builder shall provide all management, supervision, labor, services, temporary facility, equipment, tools, supplies, and any other item needed to complete the design, construction, and start-up of the Project.** For additional information refer to Attachment A.

- 1.3. COMPETITION:** This RFP is being issued only to the shortlisted contractors pursuant to **RFQ NO: K-16-1459-DB2-3.**
- 1.4. PROPOSAL DUE DATE AND TIME ARE: November 15, 2017 at 12:00 PM.**
- 1.5. ESTIMATED PROJECT COST:** The City's estimated cost for this project is **\$10,400,000.**
- 1.6. LICENSE REQUIREMENT:** The City has determined that the following licensing classification is required for this contract: **B.**
- 1.7. CONTRACT PERIOD:** Project shall be completed, including the **Plant Establishment Period**, within **600 Working Days** from the Notice to Proceed (NTP). There will be two NTPs for this project, one for design and one for construction.
- 1.8. PREVAILING WAGE RATES APPLY TO THIS CONTRACT:** Refer to Attachment D.
- 1.9. PHASED FUNDING:** For Phased Funding Conditions, see Attachment B.
- 1.10. CONTRACTOR LICENSE AND PREQUALIFICATION STATUS:**
- 1.10.1.** The Design-Builder must possess a Class "B" California State Contractor's license.
- 1.10.2.** The Design-Builder must, at the time of submission of the proposal, be prequalified at an amount equal to or greater than the total amount proposed, including any alternates or options.
- 1.10.3.** The Design-Builder's California State License and City of San Diego prequalification status as specified herein must be valid at time of proposal submission.
- 1.11. PRE-PROPOSAL MEETING AND SITE VISIT:**
- 1.11.1.** Those wishing to submit a proposal are **encouraged** to attend the Pre-Proposal Meeting. The purpose of the meeting is to discuss the scope of the Project, submittal requirements, the pre-qualification process and any Equal Opportunity Contracting Program requirements and reporting procedures. To request a sign-language or oral interpreter for this visit, call the Public Works Contracts Division at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. The Pre-Proposal meeting is scheduled as follows:
- Date: October 19, 2017**  
**Time: 10:00 AM**  
**Location: 1010 Second Avenue, Suite 1400 (14<sup>th</sup> Floor Large Conf. Rm)  
San Diego, CA 92101**

**1.11.2.** Attendance at the Pre-Proposal Meeting will be evidenced by the Design-Builder representative's signature on the attendance roster. It is the responsibility of the Design-Builder's representative to complete and sign the attendance roster.

**1.11.3. PRE-PROPOSAL SITE VISIT:** All those wishing to submit a proposal are **encouraged** to visit the Work Site with the Engineer. The purpose of the Site visit is to acquaint Proposers with the Site conditions. To request a sign-language or oral interpreter for this visit, call the Public Works Contracts at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. The Pre-Proposal Site Visit is scheduled as follows:

**Time: 1:00 PM**

**Date: October 19, 2017**

**Location: West of Interstate I-805 to the South and East of the intersection of Nobel Drive and Shoreline Drive**

**2. SUBCONTRACTING PARTICIPATION PERCENTAGES:** Subcontracting participation percentages apply to this contract.

**2.1.1.** The City has incorporated mandatory SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1. SLBE participation	<b>3.7%</b>
2. ELBE participation	<b>8.8%</b>
3. Total mandatory participation	<b>12.5%</b>

**2.1.2.** The Proposal will be declared non-responsive if the Proposer fails to meet the the following mandatory rrequirements:

**2.1.2.1.** Proposer's inclusion of SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; **OR**

**2.1.2.2.** Proposer's submission of Good Faith Effort documentation, saved in searchable Portable Document Format (PDF) and stored on Compact Disc (CD) or Digital Video Disc (DVD), demonstrating the Proposer made a good faith effort to outreach to and include SLBE-ELBE Subcontractors required in this document within 3 Working Days of the Proposal due date if the overall mandatory participation percentage is not met.

**3. SELECTION AND AWARD SCHEDULE:**

**3.1.** The City anticipates that the process for selecting a Design-Builder and awarding the contract will be according to the following tentative schedule. Dates are subject to change:

- |             |                             |                          |
|-------------|-----------------------------|--------------------------|
| <b>3.2.</b> | Pre-Proposal Meeting        | <b>October 19, 2017</b>  |
| <b>3.3.</b> | Proposal Due Date           | <b>November 15, 2017</b> |
| <b>3.4.</b> | Presentations or Interviews | <b>December 5, 2017</b>  |
| <b>3.5.</b> | Selection and Notification  | <b>January 4, 2018</b>   |
| <b>3.6.</b> | Limited Notice to Proceed   | <b>February 6, 2018</b>  |

## INSTRUCTIONS TO PROPOSERS AND GENERAL CONDITIONS

### 1. PREQUALIFICATION OF CONTRACTORS AND CALIFORNIA STATE LICENSE:

- 1.1. The Design-Builder's California State License and City of San Diego prequalification status as specified herein must be valid at time of submission. Failure to comply with these requirements may result in the proposal being deemed non responsive and ineligible for further consideration.
- 1.2. Contractors submitting proposals must be pre-qualified for the total amount proposed, inclusive of all alternate items or specified Task Order limits prior to the date of submittal. Proposals from contractors who have not been pre-qualified as applicable and Proposals that exceed the maximum dollar amount at which contractors are pre-qualified may be deemed **non-responsive** and ineligible for award. Complete information and links to the on-line prequalification application are available at:

<http://www.sandiego.gov/cip/bidopps/prequalification.shtml>

- 1.3. The completed application must be submitted online **no later than two (2) weeks prior to the Proposal due date**. For additional information or the answer to questions about the prequalification program, contact David Stucky at 619-533-3474 or [dstucky@sandiego.gov](mailto:dstucky@sandiego.gov).
- 1.4. Due to the City's responsibility to protect the confidentiality of the contractors' information, City staff will not be able to provide information regarding contractors' prequalification status over the telephone. Contractors may access real-time information about their prequalification status via their vendor profile on [PlanetBids™](#).

### 2. ELECTRONIC FORMAT RECEIPT AND OPENING OF PROPOSALS: **Proposals will be received in electronic format (eBids) EXCLUSIVELY** at the City of San Diego's electronic bidding (eBidding) site, at: <http://www.sandiego.gov/cip/bidopps/index.shtml> and are due by the date, and time shown on the cover of this solicitation.

- 2.1. **PROPOSERS MUST BE PRE-REGISTERED** with the City's bidding system and possess a system-assigned Digital ID in order to submit and electronic proposal.
- 2.2. The City's bidding system will automatically track information submitted to the site including IP addresses, browsers being used and the URLs from which information was submitted. In addition, the City's bidding system will keep a history of every login instance including the time of login, and other information about the user's computer configuration such as the operating system, browser type, version, and more. Because of these security features, Contractors who disable their browsers' cookies will not be able to log in and use the City's bidding system.

- 2.3. Upon entry of their proposal, the system will ensure that all required fields are entered. **The system will not accept a proposal for which any required information is missing.** This includes all necessary pricing, subcontractor listing(s) and any other essential documentation and supporting materials and forms requested or contained in these solicitation documents.
- 2.4. **PROPOSALS REMAIN SEALED UNTIL DUE DATE AND TIME.** eBids and eProposals are transmitted into the City's bidding system via hypertext transfer protocol secure (https) mechanism using SSL 128-256 bit security certificates issued from Verisign/Thawte which encrypts data being transferred from client to server. Proposals submitted prior to the Due Date and Time are not available for review by anyone other than the submitter, who will have until the Due Date and Time to change, rescind or retrieve its proposal should they desire to do so.
- 2.5. **PROPOSALS MUST BE SUBMITTED BY DUE DATE AND TIME.** Once the deadline is reached, no further submissions are accepted into the system. Once the Due Date and Time has passed, bidders, proposers, the general public, and City staff are able to immediately see the results on line. City staff may then begin reviewing the submissions for responsiveness, Equal Opportunity Contracting Program (EOCP) compliance and other issues.
- 2.6. **TECHNICAL PROPOSAL AND PRICE PROPOSAL ARE TO BE SEPARATE.** The proposer is to submit two separate proposal PDFs by the due date and time.
1. The Technical proposal, which should contain the items detailed below and in Attachment G. There is to be **NO PRICING** information within this proposal. If a Technical proposal contains pricing information, the submission may be deemed non-responsive and ineligible for further consideration, and
  2. The Price proposal, which should detail the cost structure and include any forms as required herein.
- 2.7. **RECAPITULATION OF THE WORK.** Proposals shall not contain any recapitulation of the Work. Conditional proposals may be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.
- 2.8. **PROPOSALS MAY BE WITHDRAWN** by the Proposer prior to, but not after, the time set as Due Date and Time.
- 2.8.1. **Important Note:** Submission of the electronic proposal into the system may not be instantaneous. Due to the speed and capabilities of the user's internet service provider (ISP), bandwidth, computer hardware and other variables, it may take time for the proposer's submission to upload and be received by the City's eBidding system. It is the proposer's sole responsibility to ensure their proposals are received on time by the City's eBidding system. The City of San Diego is not responsible for proposals that do not arrive by the required date and time.

**2.9. ACCESSIBILITY AND AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE.**

To request a copy of this solicitation in an alternative format, contact the Public Works Contract Specialist listed in the cover of this solicitation at least five (5) working days prior to the Proposal due date to ensure availability.

**3. ELECTRONIC SUBMISSIONS CARRY FULL FORCE AND EFFECT.**

**3.1.** The proposer, by submitting its electronic proposal, acknowledges that doing so carries the same force and full legal effect as a paper submission with a longhand (wet) signature.

**3.2.** By submitting an electronic proposal, the proposer certifies that the proposer has thoroughly examined and understands the entire Contract Documents (which consist of the plans and specifications, drawings, forms, affidavits and the solicitation documents), and that by submitting the eBid as its proposal, the proposer acknowledges, agrees to and is bound by the entire Contract Documents, including any addenda issued thereto, and incorporated by reference in the Contract Documents.

**3.3.** The Proposer, by submitting their electronic proposal, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certification, forms and affidavits submitted as part of this proposal are true and correct.

**4. PROPOSALS ARE PUBLIC RECORDS:** Upon receipt by the City, proposals shall become public records subject to public disclosure. It is the responsibility of the respondent to clearly identify any confidential, proprietary, trade secret or otherwise legally privileged information contained within the proposal's General references to sections of the California Public Records Act (PRA) will not suffice. If the Contractor does not provide applicable case law that clearly establishes that the requested information is exempt from the disclosure requirements of the PRA, the City shall be free to release the information when required in accordance with the PRA, pursuant to any other applicable law, or by order of any court or government agency, and the Contractor will hold the City harmless for release of this information.

**5. JOINT VENTURE CONTRACTORS:** Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 10 Working Days after receiving the Contract forms. See 7-6, "The Contractors Representative" in The GREENBOOK and 7-6.1 in The WHITEBOOK.

**6.** Each properly signed Proposal shall constitute a firm offer that may be accepted by the City within the time frame specified herein.

**7.** This RFP will not commit the City to award a contract, to defray any costs incurred in the preparation of a Proposal pursuant to this RFP, or to procure or contract for the Work.

**8.** Selection announcements, contract awards, and all data provided by the City shall be protected by the Design-Builder from public disclosure. The Design-Builders desiring to release information to the public shall receive prior written approval from the City.

**9.** Design-Builders who submit a response to this RFP agree to provide the required services in accordance with the terms and conditions noted in this RFP and its attachments upon

award by the City. The agreement and other terms and conditions are included in the Design-Build Contract, The GREENBOOK, The WHITEBOOK, and the Supplementary Special Provisions (SSP).

10. Any architectural firms, engineering firms, specialty consultants, or individuals retained by the City to assist in drafting the RFPs or the Project's preliminary design may not be eligible to participate in the competition with any Design-Build Entity without the prior written consent of City. Any architectural firms, engineering firms, specialty consultants, or individuals retained by the City to assist in drafting any Reference Documents, such as the Water Department's Master Plan and any other document that was not prepared specifically for this contract, are considered to be eligible to participate.

## 11. EQUAL OPPORTUNITY CONTRACTING

- 11.1 As set forth in this RFP, the City is dedicated to the principles of equal opportunity in the workplace and in subcontracting. It is the City's expectation that firms doing business with the City have, and are able to demonstrate, the same level of commitment.

- 11.2 The Design-Builders are encouraged to take positive steps to diversify and expand their subcontractor solicitation base and to offer contracting opportunities to all eligible certified Subcontractors in accordance with the City's EOCP requirements included in the Contract Documents.

### 11.3 Design-Builder's Work Force

- 11.1.1 The Design-Builders shall submit with its Proposal a Work Force Report (EOC Form BB05) and prior to award of contract, the successful Design-Builder shall submit to the City's EOCP office an updated Work Force Report or an Equal Employment Opportunity (EEO) Plan.

- 11.1.2 If under representations are noted in the Work Force Report when compared to County Labor Force Availability data, the Design-Builder shall submit an Equal Opportunity Plan. Any Equal Employment Opportunity Plan submitted shall include the elements as outlined in the EOCP Requirements included in The WHITEBOOK.

- 11.1.3 The specified Equal Opportunity Contracting Program (EOCP) forms are available for download from the City's web site at:

<http://www.sandiego.gov/eoc/forms/index.shtml>

### 11.4 Nondiscrimination Ordinance (Municipal Code §§ 22.2701-22.2708)

- 11.4.1 The Design-Builder shall not discriminate on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age or disability in the solicitation, selection, hiring or treatment of the Subcontractors and Suppliers. The Design-Builder shall provide equal opportunity for Subcontractors to participate in subcontracting opportunities. The Design-Builder understands and agrees that violation of this clause shall be considered a material breach

of the contract and may result in contract termination, debarment or other sanctions.

**11.4.2** This language shall be in contracts between the Design-Builder and any Subcontractors and Suppliers.

**11.4.3** As part of its Proposal, the Design-Builder shall provide to the City a list of all instances within the last 10 years where a complaint was filed or pending against Design-Builder in a legal or administrative proceeding alleging that Design-Builder discriminated against its employees, the Subcontractors, or Suppliers, and a description of the status or resolution of that complaint, including any remedial action taken. If there have not been any complaints filed or pending against Design-Builder, a written statement from the Design-Builder to confirm shall be included in the Proposal.

## **11.5 Contractor Registration and Electronic Reporting System**

**11.5.1** Prior to the award of the Contract, the Design-Builder, Subcontractors, and Suppliers must register with the City's web-based vendor registration and bid management system, BidsOnline, hosted by PlanetBids System. For additional information go to:

<http://www.sandiego.gov/purchasing/bids-contracts/vendorreg.shtml>.

**11.5.2** The City may not award the contract until registration of all subcontractors and suppliers is complete. In the event this requirement is not met within the time frame specified in the Notice of Intent to Award letter, the City reserves the right to rescind the Notice of Award / Intent to Award and to make the award to the next responsive and responsible bidder / proposer

**11.5.3** Following the award of the Contract, the Design-Builder will be required to use the City's web-based contract compliance application for EOCP reporting purposes e.g., Weekly Certified Payroll, Monthly Employment Utilization, and Monthly Payments. Online tutorials are available at:

<http://stage.prismcompliance.com/etc/vendortutorials.htm>

**11.5.4** The City may retain progress payments if:

**11.5.4.1** The non-registered Design-Builder, Subcontractors, or Suppliers fail to register,

**11.5.4.2** EOCP reporting is delinquent or inadequate, or

## **12. PRE-PROPOSAL ACTIVITIES**

### **12.1. Submission of Questions**

**12.1.1.** The Director (or designee) of the Public Works Department is the officer responsible for opening, examining, and evaluating the competitive Proposals submitted to the City for the acquisition, construction, and completion of any public improvement except when otherwise set forth in these documents. All questions related to this solicitation shall be submitted to:

Public Works Contracts  
1010 Second Avenue, 14<sup>th</sup> Floor  
San Diego, California, 92101  
Attention: Contract Specialist listed on the front cover of this RFP.

OR:

To the Email address of the Contract Specialist listed on the front cover of this RFP.

**12.1.2.** Questions received less than 14 Days prior to the Proposal due date may not be considered.

**12.1.3.** Questions or clarifications deemed by the City to be material shall be answered via issuance of an addendum and posted to the City's online bidding service.

**12.1.4.** Only questions answered by formal written addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect. It is the Design-Builder's responsibility to be informed of any Addenda that have been issued and to adjust its Proposal accordingly.

### **12.2. Revisions to the RFP**

The City, at its option, may respond to any or all questions submitted in writing via the City's eBidding web site in the form of an addendum. No other responses to questions, oral or written, shall be of any force or effect with respect to this solicitation.

Any changes to the Contract Documents through addendum are made effective as though originally issued with the Proposal. The Design-Builders shall acknowledge the receipt of Addenda at the time of Proposal submission.

## **13. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK**

**13.1.** Contract Documents may be obtained by visiting the City's website: <http://www.sandiego.gov/cip/> Plans and Specifications for this contract are also available for review in the office of Public Works Contracts.

- 13.2.** The Design-Builders shall carefully examine the Project Site, the Plans and Specifications, and other materials as described in or referenced by this RFP. The submission of a Proposal shall be conclusive evidence that the Design-Builder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of work, the quantities of materials to be furnished, local conditions, and as to the requirements of the Contract Documents.
- 14. CHANGES TO THE SCOPE OF WORK:** Once a proposal has been accepted by the City and the award has been made, the Design-Builder shall immediately notify the City in writing of any proposed or anticipated change in the scope, contract amount, or contract time; and shall obtain the City's written consent to the change(s) prior to affecting them. In no event shall the City's consent be construed to relieve the Design-Builder from its duty to render all work and services in accordance with applicable laws and accepted industry standards
- 15. DESIGN SUBMITTALS:** The City's review of the Design-Builder's Design Submittals shall not relieve the Design-Builder from its responsibilities under the Contract, or be deemed to be an acceptance or waiver by City of any deviation from, or of the Design-Builder's failure to comply with, any provision or requirement of the Contract Documents, unless such deviation or failure has been identified as such in writing in the document submitted for acceptance by the Design-Builder and accepted by City. Where approval or acceptance by City is required, it is understood to be general approval only, and does not relieve the Design-Builder of responsibility for complying with all applicable laws and good professional practices as the Design-Builder shall be the Engineer of Record.
- 16. BONDS AND INSURANCE:** Prior to the award of the Contract (or Task Order), the Design-Builders shall submit evidence of separate bonds and insurance as specified in Sections 2-4, "CONTRACT BONDS," 7-3, "LIABILITY INSURANCE," and 7-4, "WORKERS' COMPENSATION INSURANCE" of the City's standard specifications for public works constructions unless specified otherwise in the Contract Documents.
- 17. SUBMITTAL REQUIREMENTS: PROPOSALS MUST BE RECEIVED NO LATER THAN THE DUE DATE AND TIME.** Proposals may be withdrawn by the Design-Builder only up to the proposal due date and time.

**IMPORTANT NOTE: Submission of the electronic proposals into the system may not be instantaneous. Due to the speed and capabilities of the user's internet service provider (ISP), bandwidth, computer hardware and other variables, it may take time for the bidder's submission to upload and be received by the City's eBidding system. It is the bidder's sole responsibility to ensure that their bids / proposals are received on time by the City's eBidding system. The City of San Diego is not responsible for bids / proposals that do not arrive by the required date and time.**

**17.1. TECHNICAL PROPOSAL REQUIREMENTS:** Technical Proposals submitted in response to this RFP shall be in the following order and shall include:

- Legal name of company.

- Legal form of entity (partnership, corporation, joint venture, or other). If joint venture, identify the members of the joint venture, and provide all information required under this section for each member.
- Year of establishment of entity.
- If company is subsidiary of a parent company, identify the parent company.
- Address of main office.
- Address of San Diego satellite office if applicable.
- Contact information for firm, including name, title, email address and telephone number.
- Number of employees in San Diego County.
- Applicable License(s):
- City of San Diego Business License Number, including expiration date.
- State Contractor's License Number including expiration date, and all classifications. Professional Engineering/Architect License Number, including expiration date.
- Failure to provide all required information may result in the Proposal being considered non-responsive and ineligible for further consideration.

**17.1.1.** The Technical Proposal shall be concise, well organized, and demonstrate the Design-Builder's qualifications and experience applicable to the Project. The Technical Proposal shall be limited to 50 one-sided pages (8<sup>1/2</sup>" x 11"), exclusive of resumes, graphics, forms, pictures, photographs, dividers, front and back cover, etc., that address the Technical Proposal contents; and of Equal Opportunity Contracting documentation. Font Type shall be Times New Roman in a minimum 12 Point font size, with a minimum 1" margin for text pages. A cover letter may be submitted but shall not contain any information that is a required element of the Technical Proposal. Any Technical Proposal that does not comply with these formatting standards may not be considered.

**17.1.2.** The Technical Proposals submitted in response to this RFP shall be in accordance with the requirements listed in ATTACHMENT G. The contents of the Technical Proposal shall be organized consistent with the format in Attachment G.

**17.1.3.** Design elements which deviate from the Scope of Work, City's design guidelines, or material substitutions which differ from the Approved Material List shall be highlighted in accordance with Attachment G.

**17.1.4.** Failure to comply with this section may render the Design-Builder's submittal non-responsive and ineligible for further consideration.

## **17.2. PRICE PROPOSAL REQUIREMENTS**

**17.2.1.** A clearly marked, signed PDF of the Price Proposal is to be submitted in a separate PDF. This **is not** to be included with the Technical proposal. Refer to Attachment H of this RFP for any Price Proposal forms required to be used.

- 17.2.2.** The Price Proposal shall be signed by an individual or individuals authorized to execute legal documents on behalf of the Design-Builder.
- 17.2.3.** The lowest proposed price is not the determining factor for award of this contract. See Attachment G for the criteria by which the proposals will be evaluated.
- 17.2.4.** In the event of any discrepancies, written numbers will govern over numerical. Also, the sum of all lump sum line items, unit price line items, allowance line items and any other priced items will govern over the "Total Design-Build Proposal" line item.
- 17.2.5.** The required EOCP information such as Subcontractor and Supplier listings shall be submitted as part of the Price Proposal.

## **18. SELECTION CRITERIA AND SCORING**

- 18.1.** An evaluation Panel comprised of representatives from the City will be established for this Project. The Panel may also include other interested parties such as additional participating agencies, representative from the community and other appropriate agencies such as the State Water Resource Control Board.
- 18.2.** Proposals will be ranked according to the selection criteria set forth in Attachment G.
- 18.3.** The Panel will review all proposals received. Interviews or presentations will be conducted as needed in accordance with Attachment G.
- 18.4.** Based upon this technical review, the Panel will rank the Design-Builders' proposals in accordance with the selection criteria set forth in Attachment G of this RFP.
- 18.5.** Once the Technical Proposals have been ranked by the Panel, the Design-Builders' price proposals will be made available to the panel and forwarded to EOCP for review and scoring of subcontractor participation. The EOCP score will then be added to the Design-Builders' cumulative scores.

## **19. AWARD**

- 19.1.** After the Technical Proposals have been evaluated, scored and ranked; the Price proposals will be factored in according to the criteria set forth in Attachment G. A Design-Builder selection will then be made.
- 19.2.** The City will announce in writing to all the RFP participants the selected Design-Builder. The announcement will show the results of the evaluation. This notification to the Design-Builders shall constitute the public announcement of the selected Design-Builder. In the event that the selected Design-Builder is subsequently deemed non-responsive or non-responsible, a new public announcement will be provided to all proposers with the name of the newly designated selected Design-Builder.

**19.3.** To obtain the price Proposal results, view the results on the City's web site, or request the results by U.S. mail and provide a self-addressed, stamped envelope. If requesting by mail, be sure to reference the Proposal name and number. The Proposal tabulations will be mailed to you upon their completion. The results will not be given over the telephone.

**20. ADDITIONAL POLICIES, PROCEDURES, TERMS AND CONDITIONS**

**20.1.** The Program's Selection Process is based on the policies, procedures and guidelines set forth in the City Municipal Code Chapter 2, Article 2, Division 33.

**20.2. Protests.** A Design-Builder may protest the award of the Contract to another Design-Builder in accordance with San Diego Municipal Code.

**20.3. Changes to Key Personnel and Substitution of Subcontractors.** The Design-Builder shall not change or substitute any individual that is identified in its proposal as "key personnel" without the written consent of the City. The Design-Builder shall not change or substitute any material, supplier, or subcontractor identified in its Proposal without written consent of the City. The City's consent will not be unreasonably withheld.

**20.4. Project Team.** The Design-Builder shall maintain all representations, team members, and proposed tasks and work elements as valid, except for the schedule which may be adjusted as mutually agreed upon by the City and the Design-Builder.

**20.5. Submittal of "Or Equal" Items.** See 4-1.6, "Trade Names or Equals" in the SSP and as modified by the Scope of Work ATTACHMENT A.

**20.6. Subcontract Limitations.** The Design-Builder's attention is directed to Standard Specification for Public Works Construction, Section 2-3, "SUBCONTRACTS" which requires the Design-Builder to perform not less than the specified amount under this RFP. Failure to comply shall render the Proposal non-responsive.

**20.7. San Diego Business Tax Certificate.** All Contractors, including Subcontractors, not already having a City of San Diego Business Tax Certificate for the work contemplated shall secure the appropriate certificate from the City Treasurer, Civic Center Plaza, first floor, before the Contract can be executed.

**20.8. City Standard Provisions.** The work resulting from this RFP is subject to the following standard provisions. See The WHITEBOOK for details.

**20.8.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.

**20.8.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.

- 20.8.3.** The City of San Diego Municipal Code §22.3004 for Pledge of Compliance.
- 20.8.4.** The City of San Diego’s Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.
- 20.8.5.** Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.
- 20.8.6.** The City’s Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
- 20.8.7.** The City’s Information Security Policy (ISP) as defined in the City’s Administrative Regulation 90.63.

**20.9. Prevailing Wage Rates Apply:** Refer to Attachment D.

<b>Reference Standards:</b> Except as otherwise noted or specified, the Work shall be completed in accordance with the following standards: <b>Title</b>	<b>Edition</b>	<b>Document Number</b>
Standard Specifications for Public Works Construction (“The GREENBOOK”) <a href="http://www.greenbookspecs.org/">http://www.greenbookspecs.org/</a>	2015	PWPI070116-01
City of San Diego Standard Specifications for Public Works Construction (“The WHITEBOOK”)* <a href="https://www.sandiego.gov/publicworks/edocref/greenbook">https://www.sandiego.gov/publicworks/edocref/greenbook</a>	2015	PWPI070116-02
City of San Diego Standard Drawings* <a href="https://www.sandiego.gov/publicworks/edocref/standarddraw">https://www.sandiego.gov/publicworks/edocref/standarddraw</a>	2016	PWPI070116-03
Citywide Computer Aided Design and Drafting (CADD) Standards <a href="https://www.sandiego.gov/publicworks/edocref/drawings">https://www.sandiego.gov/publicworks/edocref/drawings</a>	2016	PWPI092816-04
California Department of Transportation (CALTRANS) Standard Specifications – <a href="http://www.dot.ca.gov/des/oe/construction-contract-standards.html">http://www.dot.ca.gov/des/oe/construction-contract-standards.html</a>	2015	PWPI092816-05
CALTRANS Standard Plans <a href="http://www.dot.ca.gov/des/oe/construction-contract-standards.html">http://www.dot.ca.gov/des/oe/construction-contract-standards.html</a>	2015	PWPI092816-06
California Manual on Uniform Traffic Control Devices Revision 1 (CA MUTCD Rev 1) - <a href="http://www.dot.ca.gov/trafficops/camutcd/">http://www.dot.ca.gov/trafficops/camutcd/</a>	2014	PWPI092816-07
<b>NOTE:</b> *Available online under Engineering Documents and References at: <a href="http://www.sandiego.gov/publicworks/edocref/index.shtml">http://www.sandiego.gov/publicworks/edocref/index.shtml</a>		

**ATTACHMENT A**  
**PROJECT DESCRIPTION AND SCOPE OF WORK**

## ATTACHMENT A

### PROJECT DESCRIPTION AND SCOPE OF WORK

#### 1. **Project Description:**

The Fire Station 50 Project is located west of interstate I-805 to the south and east of the intersection of Nobel Drive and Shoreline Drive, within the North University Community Planning Area in the City of San Diego. The project site is a less than one acre parcel within the Multi Habitat Planning Area. The Fire Station will serve North University City area and improve the Fire Department emergency response times and coverage needs.

#### 2. **Scope of Work:**

2.1 The project involves design and construction of a new three (3) story fire station approximately 16,077 square foot building and associated site improvements. The fire station will accommodate 10 crew members and will include three (3) apparatus bays for a fire engine and ambulance, dorm rooms, kitchen, watch room, ready room, station alerting system, Vehicle Exhaust system, Solar PV system, training classroom, and site improvements. The project element includes: Design Drawings, Project Specifications, Permits, Presentations to Community Planning Board, Americans with Disabilities Act [ADA]/Title 24 of the California Code of Regulations [Title 24], Leadership in Energy & Environmental Design Plan LEED & Building Commissioning that complies with the current Building Code and LEED requirements, Public Art, Underground Utilities, Biological Monitoring, Archaeological Monitoring, Paleontological Monitoring, Best Management Practices [BMPs], Storm Water Standard Manual, Storm Water Pollution Control Plan [WPCP], Surveying, Record Research, Community Outreach, Environmental Investigation, Site Landscaping, Brush Management, Traffic Signal at Nobel Drive and related work including but not limited to median work as mentioned in the site plan and work in the Public Right of Way, Implementation of QA/QC and Safety Programs, and etc. The project also entails coordinating the design, construction, and startup with Fire & Rescue Department, City of San Diego Development Services (DSD) for project permitting & San Diego County for Hazardous Material permitting requirements, Facilities Maintenance, City of San Diego Communications Division for the Voice/Cable/Data and Utility Agencies for building service connections (SDG&E, AT&T, Cox, or other utilities area providers, etc.) and not limited to the aforementioned.

2.2 Refer to EXHIBIT A – Bridging Documents, EXHIBIT B – Consultant Narrative Basis of Design, including Mechanical, Electrical, Plumbing (MEP) & Fire Sprinklers System, EXHIBIT C – Fire Stations and Facilities Design and Construction Standards, EXHIBIT D – General Services Facility Maintenance Design Standard And Specification Guideline, EXHIBIT E – Biological Survey Report, EXHIBIT F – Restoration and Revegetation Plan, EXHIBIT G – Noise Analysis, EXHIBIT H – Traffic Memorandum, EXHIBIT I – Geotechnical Evaluation and Responses, EXHIBIT J – Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) and Storm Water Requirements Applicability Checklist DS-560, and EXHIBIT K – Archeological Resources Report.

### **3. Project Requirements**

- 3.1 Design and construction of a fire station facility conforming or exceeding in technical quality with the minimum outlined program and performance requirements established in this RFP. Exceptions or deviations from these minimum requirements will not be allowed unless specifically authorized by this RFP or by addenda.
- 3.2 The Design-Builder services sought by this RFP include all services necessary to design and construct the fire station. This includes, but is not limited to, full design phase services, scheduling, estimating, energy modeling, value management, general contracting during the construction phase, building commissioning and project closeout. The design and construction must comply with the requirements of all applicable State and City agencies having jurisdiction over the project. The Design-Builder shall work to obtain approvals in increments that will facilitate the schedule. The completed project is to be a fully functioning fire station facility as described in the Contract between the City and Design-Builder.
- 3.3 The Fire Station shall be designed and built to be fully functional in every capacity with requirements exceeding the existing Fire Station 45 located at 9366 Friars Road, San Diego, CA 92108.
- 3.4 The contractor shall provide a digital catalog of the project documentation through software system such as PlanGrid or equal as agreed upon and coordinated with Architect and Owner.
  - 3.4.1 The documentation shall include drawings, specifications, ASDs, RFIs, RFPs, submittals, shop drawings, schedule, certificates, certifications, test reports, photographs and related project documentation.
  - 3.4.2 The contractor shall maintain and update with current documentation and approved submittals as needed.
  - 3.4.3 The information shall be organized into folders for ease of reference for the Owner and Architect.
  - 3.4.4 The folders for large files such as plans or specifications shall be tagged to provide subdivisions.
  - 3.4.5 The contractor shall make the system available to the owner and design team.
  - 3.4.6 The system shall be Mac and PC compatible to operate on iPads, androids and PC based tablets on site as well as desktop applications off site.
  - 3.4.7 The system shall be capable of providing hyperlinks to jump to referenced details.
  - 3.4.8 The system shall be capable of overlaying current revisions with previous ones.
  - 3.4.9 The system shall be capable of overlaying sheets with others for comparison and coordination items.
  - 3.4.10 The contractor shall coordinate with the architect, sub-contractors, and owner regarding the development of punch lists within the system.

- 3.4.11 All contractors and architects shall subscribe to PlanGrid for use on this project. The number of users is up to both parties. PlanGrid will be used for the current construction documentation to include, current set, addenda, SI's, RFI's, As-Built Conditions, QA/QC, and Punch Lists. Visit [www.PlanGrid.com](http://www.PlanGrid.com) to determine subscription pricing. At a minimum onsite personnel will be required to use this product to facilitate communication. It is recommended that an office administrators assist field personnel.

#### **4. Design Guidelines and Submittal Requirements**

##### 4.1 Design Guidelines

- 4.1.1 Design guidelines and performance requirements to establish basic design criteria, minimum material quality and equipment standards are provided in this RFP. Each proposal must include a certification that the proposal meets or exceeds these criteria within the stipulated Contract Price.
- 4.1.2 Proposals shall also identify attributes that enhance the minimum building design criteria, provide additional space within prescribed limits, and incorporate low operating cost building systems that reduce annual operating costs, or provide other features that will help achieve cost-effective public facilities of lasting value.
- 4.1.3 A detailed description of the requirements are provided in this RFP. These are minimum requirements.
- 4.1.4 The design and construction must comply with the requirements of all applicable agencies having jurisdiction over the project.
- 4.1.5 The Project shall be designed, procured and constructed to optimize energy efficiency. The selected contractor shall register the Project with SDG&E's Savings By Design® Program by contacting Owner's Savings By Design Account Executive within 30 business days following award of the Project in order to allow Owner to qualify for potential incentives under the Program. The Savings by Design Account Executive and the selected contractor shall maintain a collaborative relationship during the design phase and the execution of the project in order to evaluate and incorporate recommended energy efficiency measures into the final design. Compliance with this requirement and installation of the agreed-upon equipment in accordance with the terms of the program will be verified by an on-site inspection upon completion of construction. For more information regarding Savings By Design, visit <http://www.savingsbydesign.com/>.

##### 4.2 Submittal Requirements & Scope of work:

- 4.2.1 Architectural and engineering design services.
- 4.2.2 Permitting submittal and approvals from local and state agencies including Construction General Permit (CPG) and Municipal Storm Water Permit (MS4).

- 4.2.3 Coordination of payment of all fees.
- 4.2.4 Project management.
- 4.2.5 Energy modeling and analysis.
- 4.2.6 Construction, including off-site improvements as indicated in the Design Guidelines.
- 4.2.7 On-site and off-site wet and dry utilities design, coordination, and installation.
- 4.2.8 Commissioning of systems and equipment.
- 4.2.9 Coordination and payment of all test and inspection services.
- 4.2.10 Community meetings (as required).
- 4.2.11 Coordination and scheduling work of Team and others providing services to design and construct the project.
- 4.2.12 All on-site and off-site grading for new construction storm water compliance (WPCP, BMPs, SUSMP, MS4).
- 4.2.13 Insurance and bonding.
- 4.2.14 Coordination with City representatives.
- 4.2.15 LEED Silver compliance.
- 4.2.16 ADA compliance.
- 4.2.17 Soils report.
- 4.2.18 Data/ cable/ voice/ communication.
- 4.2.19 Surveying.
- 4.2.20 Integration of public art.
- 4.2.21 Traffic improvements in the Public Right of Way.
- 4.3 Project Schedule.
  - 4.3.1 The project schedule is to have the fire station completed and ready for use within the allotted 600 working days.

- 4.4 Proposed Project Budget to be submitted as follows:
- 4.4.1 Project budget and stipulated contract price: provide a budget amount for the project proposed within the stipulated contract price. Any exceptions and or limitations affecting the stipulated Contract Price shall be identified.
  - 4.4.2 The City will reimburse the Design-Builder the actual cost of the plan checking, permits, and Utilities fees without markup through fees allowances specified in the Proposal.
- 4.5 Written Submittals to be submitted and sequentially numbered as follows:
- 4.5.1 Project Design Description (limit 2 pages): A narrative description of the basis of design. Include reference to each of the systems; structural, electrical, mechanical and plumbing, as well as architectural, civil and landscape approaches. Address how the proposed design achieves programmatic goals and performance requirements of the project. Include narrative descriptions of the building forms; quality levels; proposed finish, and material selections; special design features; and performance characteristics. Clearly convey the design intent and philosophy of the proposed design and how it achieves the City's goals for the project.
  - 4.5.2 Project schedule: The Design-Builder identification of, and commitment to, key milestones from Notice to Proceed through Guaranteed Completion Date. The schedule shall be cost loaded and identify significant design and construction activities; their duration and completion dates; document submittal dates; allowances for City and other agency review periods, including schematic design documents, design development documents, final plans and specifications; and regulatory agency review periods for the project. All dates must be indicated by calendar dates. The schedule shall be in color and in 11"x 17" foldout format.
  - 4.5.3 Project Budget: The Design-Builder Fixed Lump Sum Price for the project. Budget shall include cost detail by major building components.
  - 4.5.4 Project Compliance with minimum program and performance requirements: A brief written statement certifying that all mandatory program and performance requirements of the RFP are met by the proposal.
  - 4.5.5 LEED New Construction Project Checklist with explanatory notes for how each point will be achieved with accompanying Summary of Value-Added Enhancements (as appropriate).
  - 4.5.6 Summary of Value-Added Enhancements (optional): A brief narrative description of any proposed value-added enhancements.

## 4.6 Public Art

### 4.6.1 Integration of Public Art:

The Fire Station 50 North University City project is subject to City Council Policy 900-11, "Inclusion of Public Art in Selected Capital Improvements Program." An artist is under contract with the City to provide public art services for design, fabrication, transport of artwork and oversight during installation of the artwork. The artist is currently developing a schematic artwork proposal to integrate public art into the building design. The resultant artwork will become an acquisition of the Civic Art Collection which is managed by the Commission for Arts and Culture. The design/build team should account for time and materials necessary for coordinating with the artist on the integration of the public artwork throughout the duration of the design/construction activities for the project.

## 4.7 Design Deliverables

4.7.1 Design deliverables during the design process shall include 30%, 60%, 90% and 100% phases. Plans, Specifications and LEED progress packages shall be delivered for review at each phase. Commissioning Plan shall be submitted at 30% design.

4.7.2 Design-builder shall provide five (5) full size (24"x36"), ten (10) one-half size (11"x17"), and one (1) CD of design drawings, and five (5) sets of specifications for each phase of design submittals. Design-Builder shall provide final as-built drawings in Mylar.

**EXHIBIT A**  
**BRIDGING DOCUMENTS**



### LEGAL DESCRIPTION

A PORTION OF PUEBLO LOT 1304 OF THE PUEBLO LANDS OF SAN DIEGO, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF MADE BY JAMES PASCOE IN 1870, A COPY OF WHICH MAP WAS FILED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER, NOVEMBER 14, 1921, AS MISCELLANEOUS MAP NO. 36. SEE TITLE REPORT FOR FULL LEGAL DESCRIPTION.

### NOTES

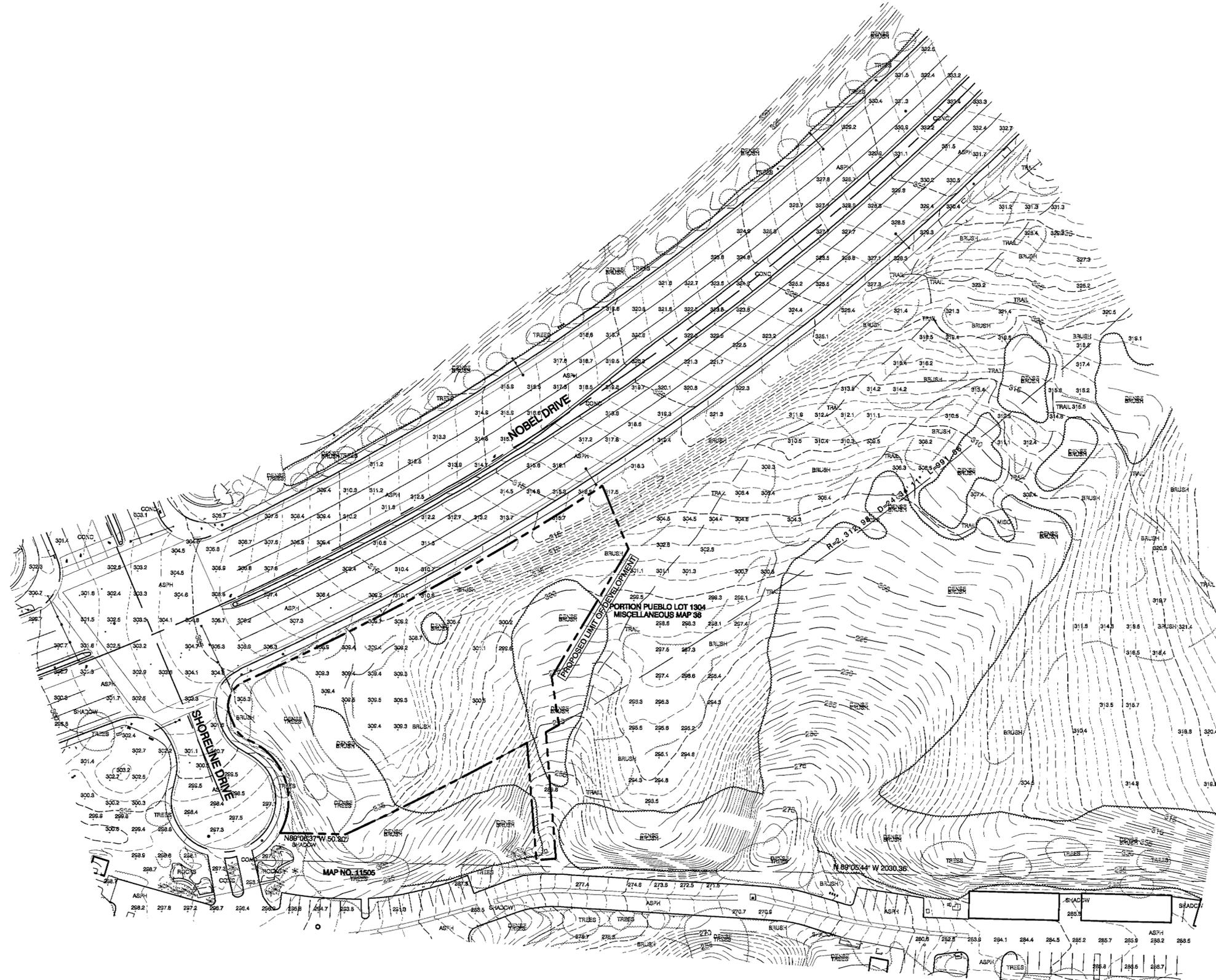
1. EASEMENTS, AGREEMENTS, DOCUMENTS AND OTHER MATTERS WHICH AFFECT THIS PROPERTY MAY EXIST, BUT CANNOT BE PLOTTED. SEE TITLE REPORT FOR PARTICULARS.
2. THE PRECISE LOCATION OF UNDERGROUND UTILITIES COULD NOT BE DETERMINED IN THE FIELD. PRIOR TO ANY EXCAVATION UTILITY COMPANIES WILL NEED TO MARK-OUT THE UTILITY LOCATIONS.
3. THE ADDRESS FOR THE SUBJECT PROPERTY IS NOBEL DRIVE AT SHORELINE DRIVE, SAN DIEGO, CA.
4. THE ASSESSOR PARCEL NUMBER FOR THE SUBJECT PROPERTY IS 345-010-03.
5. THE TOTAL AREA OF THE SUBJECT PARCEL IS 34.1 ACRES.

### BENCHMARK

CITY OF SAN DIEGO BENCHMARK LOCATED AT THE SOUTH-WESTERLY CORNER OF NOBEL DRIVE AND SHORELINE DRIVE. ELEVATION 301.357 MEAN SEA LEVEL (N.G.V.D. 1929).

### ABBREVIATIONS

ASPH ASPHALT  
CONC CONCRETE



*Patrick F. Christensen*  
 PATRICK F. CHRISTENSEN, P.L.S. 7208  
 SEPTEMBER 16, 2017  
 Date



	<b>TOPOGRAPHIC SURVEY</b> 02 - D	
	<b>BRIDGING DOCUMENTS FOR</b> <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.	
SPEC NO.	<b>CITY OF SAN DIEGO, CALIFORNIA</b> PUBLIC WORKS DEPARTMENT SHEET 2 OF 33 SHEETS	
APPROVED:	FOR CITY ENGINEER _____ DATE _____	SUBMITTED BY: JASON GRANI, SENIOR ENGINEER
PRINT NAME _____ RCE # _____	CHECKED BY: JASIAH NEFF, PROJECT MANAGER	254-1707 CCS27 COORDINATE 6274-1897 CCS83 COORDINATE
DESCRIPTION BY APPROVED DATE FILMED ORIGINAL CE&S _____ 9-18-17	CONTRACTOR: _____ DATE STARTED: _____ INSPECTOR: _____ DATE COMPLETED: _____	<b>WBS: S-13021</b> <b>40304 - 02 - D</b>

SAN DIEGO FIRE STATION 50

### LEGAL DESCRIPTION

A PORTION OF PUEBLO LOT 1304 OF THE PUEBLO LANDS OF SAN DIEGO, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF MADE BY JAMES PASCOE IN 1870, A COPY OF WHICH MAP WAS FILED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER, NOVEMBER 14, 1921, AS MISCELLANEOUS MAP NO. 36. SEE TITLE REPORT FOR FULL LEGAL DESCRIPTION.

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- THE TOTAL AREA OF THE SUBJECT PARCEL IS 34.1 ACRES.

### BENCHMARK

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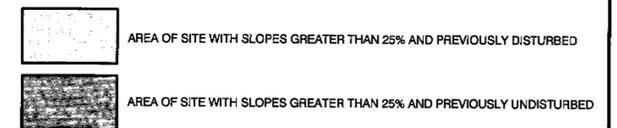
### ABBREVIATIONS

ASPH ASPHALT  
CONC CONCRETE

### SLOPE ANALYSIS

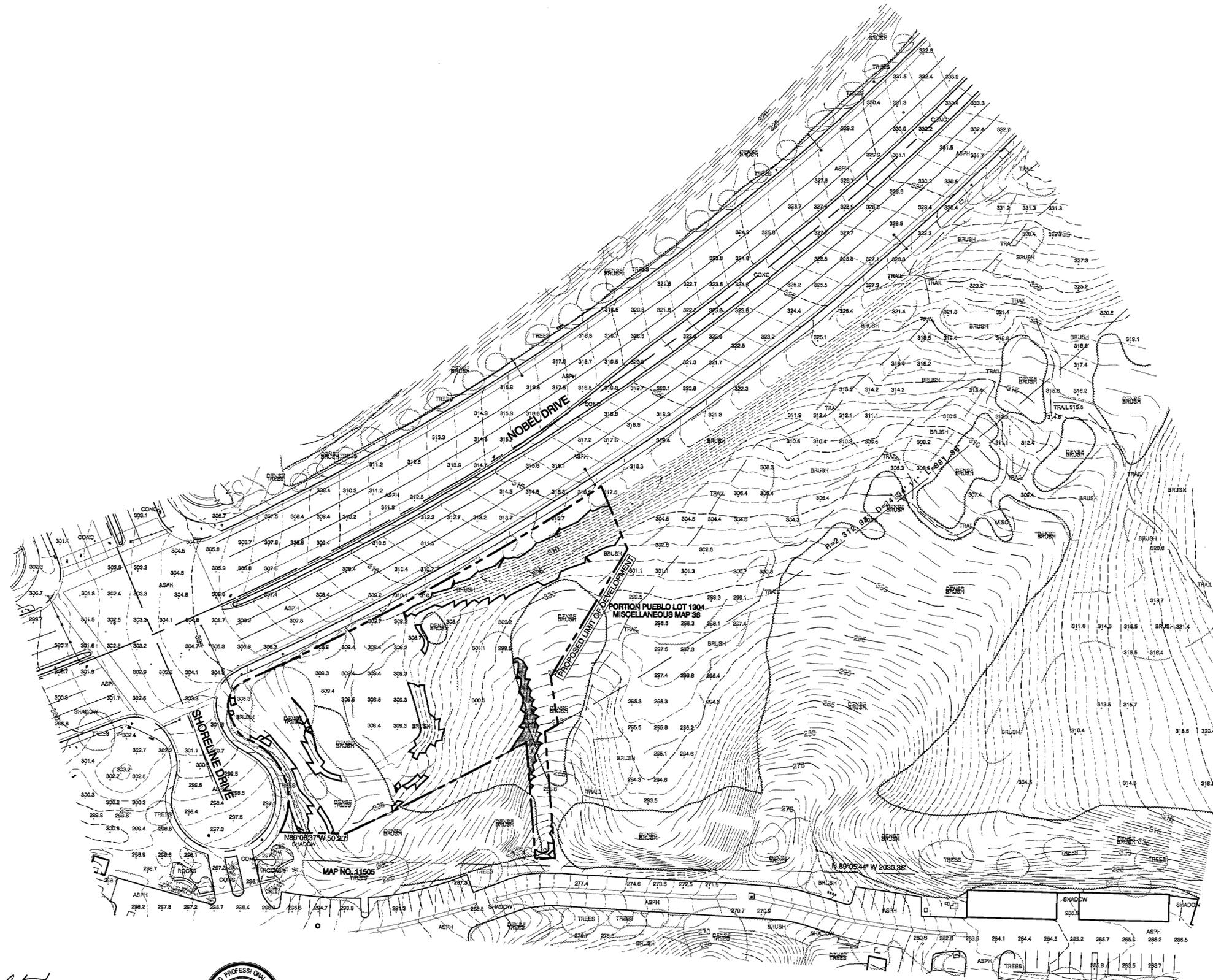
GEOLOGIC RECONNAISSANCE BY NINYO AND MOORE, DATED MAY 29, 2015 STATES THAT THE AREA OF PROPOSED DEVELOPMENT INCLUDES SLOPES AND A PREVIOUS STAGING AREA THAT WERE CREATED DURING THE CONSTRUCTION OF THE ADJACENT STREETS. THIS EVALUATION SEPARATES THE AREA OF DISTURBED AND UNDISTURBED SLOPES GREATER THAN 25% BASED ON THIS ANALYSIS. THE AREA OF ANALYSIS IS LIMITED TO THE AREA OF PROPOSED DEVELOPMENT.

- AREA OF PROPOSED DEVELOPMENT - 39,834 SF
- AREA OF SITE WITH SLOPES GREATER THAN 25% AND PREVIOUSLY DISTURBED - 6,173 SF (15.5%)
- AREA OF SITE WITH SLOPES GREATER THAN 25% AND PREVIOUSLY UNDISTURBED - 766 SF (1.9%)
- AREA OF SITE WITH SLOPES LESS THAN 25% - 32,895 SF (82.6%)



AREA OF SITE WITH SLOPES GREATER THAN 25% AND PREVIOUSLY DISTURBED

AREA OF SITE WITH SLOPES GREATER THAN 25% AND PREVIOUSLY UNDISTURBED



*Antony K. Christensen*  
 ANTONY K. CHRISTENSEN, R.C.E. 54021  
 CHRISTENSEN ENGINEERING & SURVEYING  
 7888 SILVERTON AVENUE, SUITE 'J'  
 SAN DIEGO, CA 92131  
 858-271-9901

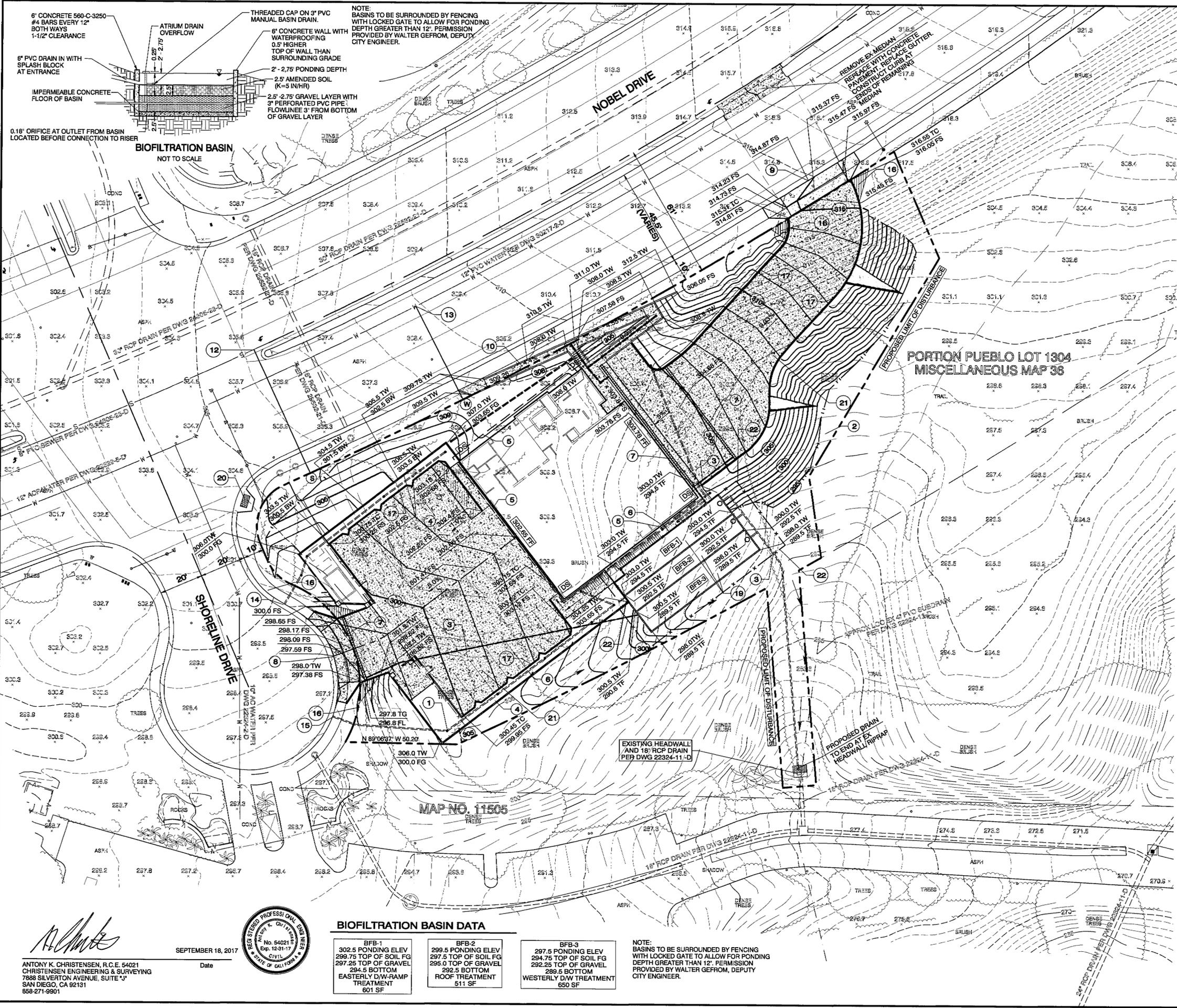


SEPTEMBER 18, 2017 Date

<b>SLOPE ANALYSIS</b>		03 - D
<b>BRIDGING DOCUMENTS FOR</b>		
<b>FIRE STATION 50</b>		
SE CORNER OF NOBEL DR. AND SHORELINE DR.		
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 3 OF 33 SHEETS		WBS: S-13021
APPROVED FOR CITY ENGINEER	DATE	SUBMITTED BY
PRINT NAME	RCE #	JASON GRAN SENIOR ENGINEER
DESCRIPTION	BY	CHECKED BY
ORIGINAL	CE&S	JASIAH NEFF PROJECT MANAGER
APPROVED	DATE	FILED
	9-18-17	
CONTRACTOR:		DATE STARTED:
INSPECTOR:		DATE COMPLETED:
		<b>40304 - 03 - D</b>

SCALE  
1" = 40' - 0"

SAN DIEGO FIRE STATION 50



### CONSTRUCTION NOTES

- 1 AREA DRAIN (TYPICAL)
- 2 LANDSCAPED AREA (SEE LANDSCAPE PLAN)
- 3 IMPERVIOUS SURFACE DRAIN SYSTEM
- 4 RETAINING WALL (TYPICAL)
- 5 ROOF DOWNSPOUTE DRAIN SYSTEM (CLOSED SYSTEM)
- 6 PERVIOUS SURFACE DRAIN SYSTEM
- 7 12" TRENCH DRAIN (TRAFFIC GRATE)
- 8 PROPOSED 27" DRIVEWAY PER SDG-163
- 9 PROPOSED 30" DRIVEWAY PER SDG-163
- 10 PEDESTRIAN RAMP
- 11 PROPOSED MEDIAN OPENING
- 12 PROPOSED 4" PVC SEWER LATERAL (291.4 IE @ MAIN)
- 13 PROPOSED WATER SERVICE
- 14 CURB OUTLET PER D-25  
Q100 = CFS  
V100 = FPS
- 15 CURB OUTLET PER D-25  
Q100 = CFS  
V100 = FPS
- 16 VISIBILITY TRIANGLE AREA  
NOTHING GREATER THAN 36" IN HEIGHT ALLOWED  
IN THIS AREA
- 17 TYPE "G" CURB, NO GUTTER
- 18 EXISTING STREET LIGHT TO REMAIN
- 19 BIOFILTRATION BASIN (TYPICAL)  
SEE FENCING REQUIREMENT NOTE AT  
UPPER RIGHT DETAIL
- 20 REMOVE AND REPLACE EX CURB RAMP PER SDG-130 & 132
- 21 6" PCC SURFACE. ACTUAL SECTION TO BE DETERMINED BY  
GEOTECHNICAL CONSULTANT AT TIME OF GRADING
- 22 SECURITY FENCE WITH LOCKED GATE SURROUNDING  
BIOFILTRATION BASINS

### GRADING DATA

AREA OF SITE - 34.1 AC (PROPOSED SITE AREA 0.914 AC)  
 AREA OF SITE TO BE GRADED: 0.7988 AC  
 PERCENT OF SITE TO BE GRADED: 87.4%

AMOUNT OF CUT - 4,300 C.Y.  
 AMOUNT OF FILL - 1,600 C.Y.  
 AMOUNT OF EXPORT - 1,700 C.Y.  
 MAXIMUM FILL - 11 FEET  
 MAXIMUM CUT - 10 FEET  
 MAXIMUM HEIGHT OF CUT SLOPE - 4 FEET  
 RETAINING WALL: 6 FEET MAX HT, 290 FEET LONG

EARTHWORK CALCULATIONS ARE APPROXIMATE AND TO FINISH GRADE USING:  
 16" FOR EQUIPMENT BAY  
 8" FOR BUILDING  
 6" FOR DRIVEWAY

FOR PROJECT SITE:  
 PRE-CONSTRUCTION IMPERVIOUSNESS 0 AC (0%)  
 POST-CONSTRUCTION IMPERVIOUSNESS 0.473 AC (0.473/0.914 AC = 51.8%)

### NOTES

1. UNDERGROUND UTILITIES ARE SHOWN AT RECORD LOCATIONS AS OBTAINED FROM CITY OF SAN DIEGO IMPROVEMENT PLANS. ACTUAL STRUCTURES AND LOCATION WILL NEED TO BE VERIFIED IN THE FIELD BY CONTRACTOR AND/OR UTILITY SPECIALISTS.
2. THE SOURCE OF THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS FROM SURVEY BY CHRISTENSEN ENGINEERING & SURVEYING, DATED 05-14-15.
3. TREATMENT OF RUNOFF FROM IMPERVIOUS SURFACES SHALL BE BY FLOW THROUGH PLANTERS AS SHOWN. ROOF RUNOFF SHALL BE CONVEYED THROUGH A CLOSED SYSTEM TO THE BRB.
4. AN ENCROACHMENT MAINTENANCE AND REMOVAL AGREEMENT WILL BE REQUIRED FOR PRIVATE CURB OUTLETS IN SHORELINE DRIVE RIGHT OF WAY AND FOR PRIVATE PEDESTRIAN RAMP IN NOBEL DRIVE
5. THIS PROJECT WILL NOT DISCHARGE ANY INCREASE IN STORM WATER RUNOFF ONTO THE EXISTING HILLSIDE AREA.
6. AT THE STORM WATER DISCHARGE LOCATIONS, SUITABLE ENERGY DISSIPATORS ARE TO BE INSTALLED TO REDUCE DISCHARGE TO NON-ERODIBLE VELOCITIES.
7. NO ADDITIONAL RUN-OFF IS PROPOSED FOR THE DISCHARGE LOCATIONS.

### BIOFILTRATION BASIN DATA

BFB-1 302.5 PONDING ELEV 299.75 TOP OF SOIL FG 297.25 TOP OF GRAVEL 294.5 BOTTOM EASTERLY D/W RAMP TREATMENT 601 SF	BFB-2 299.5 PONDING ELEV 297.5 TOP OF SOIL FG 295.0 TOP OF GRAVEL 292.5 BOTTOM ROOF TREATMENT 511 SF	BFB-3 297.5 PONDING ELEV 294.75 TOP OF SOIL FG 292.25 TOP OF GRAVEL 289.5 BOTTOM WESTERLY D/W TREATMENT 650 SF
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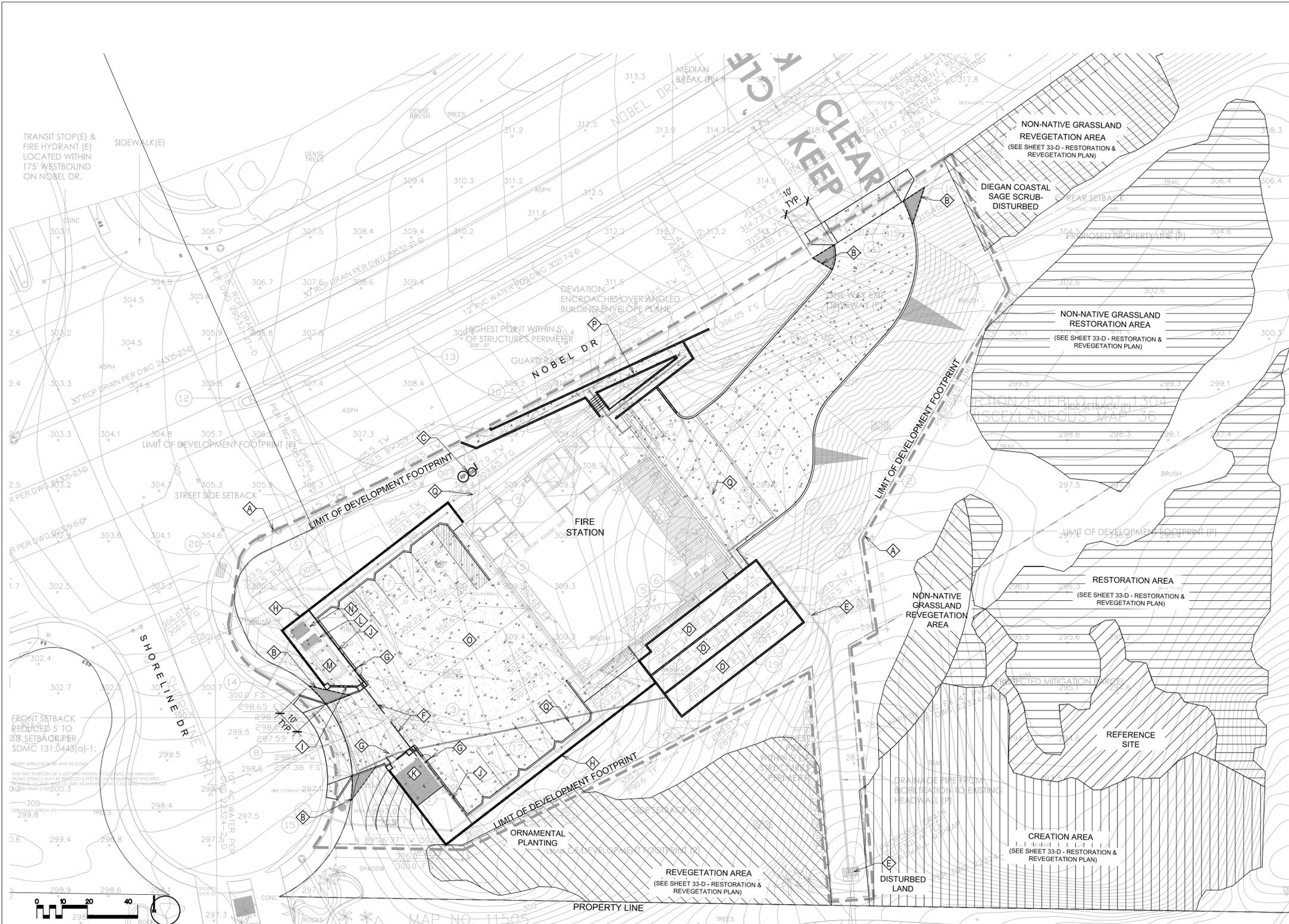
NOTE:  
 BASINS TO BE SURROUNDED BY FENCING  
 WITH LOCKED GATE TO ALLOW FOR PONDING  
 DEPTH GREATER THAN 12". PERMISSION  
 PROVIDED BY WALTER GEFROM, DEPUTY  
 CITY ENGINEER.

ANTHONY K. CHRISTENSEN, R.C.E. 54021  
 CHRISTENSEN ENGINEERING & SURVEYING  
 7888 SILVERTON AVENUE, SUITE "J"  
 SAN DIEGO, CA 92131  
 858-271-9901

SEPTEMBER 18, 2017

DATE

PRELIMINARY GRADING PLAN		04 - D
BRIDGING DOCUMENTS FOR		
FIRE STATION 50		
SE CORNER OF NOBEL DR. AND SHORELINE DR.		
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 4 OF 33 SHEETS		WBS: S-13021
FOR CITY ENGINEER		DATE
PRINT NAME		RCE #
DESCRIPTION	BY	APPROVED DATE FILMED
ORIGINAL	CE&S	9-18-17
CONTRACTOR:		DATE STARTED:
INSPECTOR:		DATE COMPLETED:
		254-1707 CCS27 COORDINATE
		6274-1897 CCS83 COORDINATE
		40304 - 04 - D



**GENERAL NOTES:**

1. THE LANDSCAPE PLAN IS FOR GENERAL SITE REFERENCE ONLY. REFER TO OTHER CONSTRUCTION DOCUMENTS FOR COMPLETE SCOPE OF WORK.
2. BEFORE COMMENCING ANY SITE EXCAVATION, VERIFY LOCATIONS OF ALL EXISTING SITE UTILITIES, INCLUDING WATER SEWER, GAS, AND ELECTRICAL LINES. FLAG OR OTHERWISE MARK ALL LOCATIONS AND INDICATE UTILITY TYPE.
3. GRADE SITE TO DIRECT GROUND WATER AWAY FROM BUILDING AND NEW ADDITIONS. LANDSCAPE DRAINS SHALL BE INSTALLED AT LOW POINTS TO REDUCE RUNOFF CROSSING PATHS AND PAVING.
4. LOCATE REFUSE BIN AT APPROVED ON-SITE LOCATION. CONTRACTOR SHALL DISPOSE OF ALL SITE REFUSE AT CITY-APPROVED LOCATIONS.
5. ALL REQUIRED PLANTING AREAS SHALL BE COVERED WITH MULCH TO A MINIMUM DEPTH OF 2 INCHES, EXCLUDING SLOPES REQUIRING RE-VEGETATION AND AREAS TO BE PLANTED WITH GROUND COVER. ALL EXPOSED SOIL AREAS WITHOUT VEGETATION SHALL ALSO BE MULCHED TO THIS MINIMUM DEPTH.
6. ALL REQUIRED TREES SHALL HAVE AT LEAST ONE WELL DEFINED TRUNK AND SHALL NORMALLY ATTAIN A MATURE HEIGHT AND SPREAD OF AT LEAST 15 FEET. ALL PROPOSED STREET TREE PALMS SHALL HAVE A MINIMUM BROWN TRUNK HEIGHT (BTH) OF 10 FEET.
7. PROPOSED LANDSCAPING SHALL NOT CONFLICT WITH EXISTING UTILITIES.
8. PROPOSED UTILITIES SHALL NOT CONFLICT WITH PROPOSED LANDSCAPING.
9. TREE ROOT BARRIERS SHALL BE INSTALLED WHERE TREES ARE PLACED WITHIN 5 FEET OF PUBLIC IMPROVEMENTS INCLUDING WALKS, CURBS, OR STREET PAVEMENTS, OR WHERE NEW PUBLIC IMPROVEMENTS ARE PLACED ADJACENT TO EXISTING TREES. THE ROOT BARRIER SHALL NOT WRAP AROUND THE ROOT BALL.
10. MAINTENANCE: ALL REQUIRED LANDSCAPE AREAS SHALL BE MAINTAINED BY THE CONTRACTOR DURING THE CONSTRUCTION AND MAINTENANCE PERIOD. THE LANDSCAPE AREAS SHALL BE MAINTAINED FREE OF DEBRIS AND LITTER, AND ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. DISEASED OR DEAD PLANT MATERIAL SHALL BE SATISFACTORILY TREATED OR REPLACED PER THE CONDITIONS OF THE PERMIT. THE PERMITTEE OR SUBSEQUENT OWNER SHALL BE RESPONSIBLE FOR THE LONG-TERM MAINTENANCE OF ALL REQUIRED LANDSCAPE IMPROVEMENTS, INCLUDING IN THE RIGHT-OF-WAY.
11. ALL LANDSCAPE AND IRRIGATION SHALL CONFORM TO THE CITY OF SAN DIEGO'S LAND DEVELOPMENT MANUAL, LANDSCAPE STANDARDS, AND ALL OTHER CITY AND REGIONAL STANDARDS.
12. ALL REQUIRED LANDSCAPE SHALL BE MAINTAINED IN A DISEASE, WEED, AND LITTER FREE CONDITION AT ALL TIMES. SEVERE PRUNING OR "TOPPING" OF TREES IS NOT PERMITTED UNLESS SPECIFICALLY NOTED IN THIS PERMIT.
13. ANY MODIFICATIONS OR CHANGES TO THE "LANDSCAPE PLAN" AND EXISTING OR PROPOSED PLANT MATERIAL, AS SHOWN ON THE APPROVED EXHIBIT "A", LANDSCAPE DEVELOPMENT PLAN, IS PERMITTED PROVIDED THE RESULTING LANDSCAPE MEETS THE REQUIREMENTS OF THE CITY OF SAN DIEGO LANDSCAPE DEVELOPMENT MANUAL AND LANDSCAPE STANDARDS.
14. IF ANY REQUIRED LANDSCAPE (INCLUDING EXISTING OR NEW PLANTINGS, HARDSCAPE, LANDSCAPE FEATURES, ETC.) INDICATED ON THE APPROVED CONSTRUCTION DOCUMENT PLANS IS DAMAGED OR REMOVED DURING DEMOLITION OR CONSTRUCTION, IT SHALL BE REPAIRED AND/OR REPLACED IN KIND AND EQUIVALENT SIZE PER THE APPROVED DOCUMENTS TO THE SATISFACTION OF THE DEVELOPMENT SERVICES DEPARTMENT WITHIN 30 DAYS OF DAMAGE OR FINAL INSPECTION.
15. ALL GRADED, DISTURBED, OR ERODED AREAS THAT WILL NOT BE PERMANENTLY PAVED OR COVERED BY STRUCTURES SHALL BE PERMANENTLY RE-VEGETATED AND IRRIGATED AS SHOWN IN SAN DIEGO MUNICIPAL CODE (SDMC) TABLE 142-04F AND IN ACCORDANCE WITH THE STANDARDS IN THE LAND DEVELOPMENT MANUAL.
16. A MINIMUM ROOT ZONE OF 40 SQUARE FEET IN AREA SHALL BE PROVIDED FOR ALL TREES. THE MINIMUM DIMENSION FOR THIS AREA SHALL BE 5 FEET, PER SDMC 142.0403(B)(5).
17. TREES SHALL BE MAINTAINED SO THAT ALL BRANCHES OVER PEDESTRIAN WALKWAYS ARE 6 FEET ABOVE THE WALKWAY GRADE AND BRANCHES OVER VEHICULAR TRAVEL WAYS ARE 16 FEET ABOVE THE GRADE OF THE TRAVEL WAY PER SDMC 142.0403(B)(10).
18. EXISTING TREES TO REMAIN ON SITE WITHIN THE AREA OF WORK SHALL BE PROTECTED IN PLACE. THE FOLLOWING PROTECTION MEASURES SHALL BE PROVIDED:
  - A. A BRIGHT YELLOW OR ORANGE TEMPORARY FENCE SHALL BE PLACED AROUND EXISTING TREES AT THE DRIP LINE.
  - B. STOCKPILING, TOPSOIL DISTURBANCE, VEHICLE USE, AND MATERIAL STORAGE OF ANY KIND IS PROHIBITED WITHIN THE DRIP LINE.
  - C. A TREE WATERING SCHEDULE SHALL BE MAINTAINED AND DOCUMENTED DURING CONSTRUCTION.
  - D. ALL DAMAGED TREES SHALL BE REPLACED WITH ONE OF EQUAL OR GREATER SIZE.

**IRRIGATION NOTES:**

1. ALL PLANTING AREAS SHALL BE IRRIGATED BY A DEDICATED, BACKFLOW-PREVENTED IRRIGATION SYSTEM WITH AN IRRIGATION SUB-METER, ACCORDING TO PLANT TYPE AND ENVIRONMENTAL EXPOSURE AND SHALL RECEIVE UNIFORM WATER COVERAGE BY MEANS OF A HIGH EFFICIENCY, AUTOMATICALLY CONTROLLED, ELECTRICALLY ACTUATED, UNDERGROUND PIPED SPRINKLER SYSTEM. FOR WATER CONSERVATION AND TO MINIMIZE EROSION, STATE OF THE ART LOW PRECIPITATION RATE SPRINKLER EQUIPMENT SHALL BE USED. IRRIGATION MAINLINE PIPING SHALL BE PVC PLASTIC (TYPE 1120) CLASS 315 PRESSURE PIPE, AND LATERAL LINE PIPING SHALL BE SCHEDULE 40 NON-PRESSURE PIPE. PRESSURE LINES SHALL BE INSTALLED 18" DEEP, AND NON-PRESSURE LINES 12" DEEP. A MASTER VALVE AND FLOW SENSOR SHALL BE INSTALLED TO MINIMIZE DAMAGE IN THE CASE OF A VALVE FAILURE OR MAINLINE BREAK. A SEPARATE HOSE BIB MAINLINE SHALL BE INSTALLED UPSTREAM OF THE MASTER VALVE AND EACH HOSE BIB SHALL BE FITTED WITH AN ATMOSPHERIC VACUUM BREAKER.
2. ALL PROPOSED IRRIGATION SYSTEMS WILL USE AN APPROVED RAIN SENSOR SHUTOFF DEVICE.
3. STREET TREES LOCATED IN THE PUBLIC RIGHT-OF-WAY SHALL BE IRRIGATED BY A PRIVATELY-FUNDED AND MAINTAINED, DEEP-WATERING, LOW-VOLUME BUBBLER.
4. PRIOR TO OCCUPANCY AND USE THE APPLICANT SHALL SUBMIT TO THE CITY AN IRRIGATION AUDIT CONSISTENT WITH SAN DIEGO MUNICIPAL CODE (SDMC) 142.0413 (F) AND SECTION 2.7 OF THE LANDSCAPE STANDARDS FOR THE LAND DEVELOPMENT MANUAL.

**DRAINAGE NOTES:**

1. THE DRAINAGE SYSTEM FOR THIS PROJECT SHALL BE PRIVATE AND WILL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER. ALL DEVELOPMENT SHALL BE CONDUCTED TO PREVENT EROSION AND STOP SEDIMENT AND POLLUTANTS FROM LEAVING THE PROPERTY TO THE MAXIMUM EXTENT PRACTICABLE.
2. ALL ROOF DRAINS AND FLATWORK SHALL DRAIN POSITIVELY INTO STORM DRAINAGE SYSTEM. SURFACE RUNOFF SHALL NOT DRAIN DIRECTLY INTO THE ADJOINING PROPERTY, AND CONSTRUCTION RUNOFF MAY NOT DRAIN INTO THE STORMWATER CONVEYANCE SYSTEM.

**PROPOSED HARDSCAPE MATERIAL LEGEND**

	<b>HARDSCAPE PAVING 'A'</b> Non-porous paving such as: "Interlocking Concrete Pavers" "Integral Color Concrete with Enhanced Finish" "Uncolored Concrete with Enhanced Finish"	15,184 SF
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**LANDSCAPE KEY NOTES**

	LIMIT OF WORK		FREE STANDING WALL WITH FENCE
	10' VISIBILITY AREAS - NO OBSTRUCTIONS SHALL EXCEED 3' IN HEIGHT, INCLUDING LANDSCAPING OR WALLS		FENCE
	IRRIGATION SUB-METER & BACKFLOW PREVENTER. INSTALL PER CITY STANDARD DRAWING (2016) SDW-155.		TRASH AREA
	BIO-RETENTION AREA		GENERATOR SET
	BIO-RETENTION OVERFLOW WITH ENERGY DISSIPATOR		GENERATOR FUEL TANK
	30' DOUBLE SLIDING GATE		TRANSFORMER
	4' PEDESTRIAN GATE		PARKING AREA
	RETAINING WALL WITH FENCE		ADA ACCESS RAMP
			SITE DRAINAGE PER CIVIL DWGS

**LANDSCAPE CONCEPT STATEMENT**

THE LANDSCAPE ENVISIONED FOR THIS FIRE STATION BLENDS CALIFORNIA NATIVE AND DROUGHT-TOLERANT PLANTINGS TO CREATE A WATER-WISE LANDSCAPE WHICH ALSO PROVIDES VISUAL INTEREST. FROM THE STREET, EVERGREEN TREES WILL SCREEN THE PARKING AREA THROUGHOUT THE YEAR WITH GROVES OF DECIDUOUS TREES TRANSFORMING THE FOREGROUND WITH THE SEASONS. A MOSAIC OF EVERGREEN SHRUBS VARYING IN TEXTURE AND COLOR WILL CONTRAST THE STRAIGHT LINES OF THE MODERN-STYLED STRUCTURE. ON THE SITE'S SOUTHEAST SIDE, LOW GROWING EVERGREEN SHRUBS WILL PROTECT THE SLOPE AGAINST EROSION AND PROVIDE A FIRE BREAK BETWEEN THE STRUCTURE AND THE ADJACENT NATURALIZED OPEN SPACE. THE TOTAL LANDSCAPE EFFECT WILL BE ONE OF ENVIRONMENTAL AND ARCHITECTURAL CONGRUITY, ALL IN CONFORMANCE WITH THE LAND DEVELOPMENT CODE, AND THE UNIVERSITY COMMUNITY PLAN. ALL LANDSCAPE AREAS WILL BE MAINTAINED BY THE CITY.

L1.0

05 - D

SAN DIEGO FIRE STATION 50

 NERI LANDSCAPE ARCHITECTURE 11505 SAN DIEGO, CA 92106 (619) 584-3222 WWW.NLA.COM	LANDSCAPE DEVELOPMENT HARDSCAPE PLAN		05 - D
	BRIDGING DOCUMENTS FOR <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.		
9/19/17  SCALE 1" = 20' - 0"	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 05 OF 33 SHEETS		WBS S-13021
SPEC. NO.	APPROVED: FOR CITY ENGINEER _____ DATE _____ PRINT NAME _____ RCE# _____		SUBMITTED BY: JASON GRANI SENIOR ENGINEER
	DESCRIPTION ORIGINAL	BY XXXX	APPROVED DATE 3.3.2017
CONTRACTOR INSPECTOR	DATE STARTED DATE COMPLETED	PROJECT MANAGER JASIAH NEFF 254-1707 CCS27 COORDINATE 6274-1897 CCS83 COORDINATE 40304 -05-D	



### BRUSH MANAGEMENT DESIGN METHOD

THE BRUSH MANAGEMENT PLAN HAS BEEN DESIGNED TO INTEGRATE THE FIRE STATION SEAMLESSLY INTO ITS NATURALIZED SURROUNDINGS WHILE PROTECTING IT FROM THE DEVASTATING EFFECTS OF FIRE. THE PLANTING IN ZONE ONE HAS BEEN CAREFULLY CHOSEN TO ACT AS A TRANSITIONAL LANDSCAPE THAT CREATES AN IRRIGATED AREA AROUND THE STRUCTURES THAT PROVIDES BOTH BEAUTY AND SAFETY WITHOUT ADVERSE AFFECT TO THE ADJACENT OPEN SPACE. THIS INCLUDES LOW-WATER USE, NATIVE, AND NON-INVASIVE PLANT MATERIAL. ZONE TWO WILL BE THINNED TO PREVENT FIRE FROM JUMPING FROM VEGETATION TO STRUCTURES. ADDED FIRE PROTECTION COMES FROM THE HIGHER FIRE-RATED CONSTRUCTION AND THE USE OF NON-COMBUSTIBLE MATERIALS IN KEY PLACES.

### TREE & SHRUB SPACING CHART

TREES <sup>b</sup>	MINIMUM HORIZONTAL SPACE	
	FROM EDGE OF ONE TREE CANOPY SPREAD (MAX. 40-FT X 40-FT) TO THE EDGE OF THE NEXT	SPACING
SHRUBS	0% TO 50% (2:1)	10 FEET
	GREATER THAN 50% (2:1)	30 FEET
VERTICAL SPACE	MINIMUM HORIZONTAL SPACE BETWEEN EDGES OF SHRUB	
	SLOPE	SPACING
	0% TO 50% (2:1)	3 TIMES THE HEIGHT OF THE SHRUB MASS
	GREATER THAN 50% (2:1)	6 TIMES THE HEIGHT OF THE SHRUB MASS

- a. TREES GREATER THAN 3 INCHES DBH LOCATED IN EUCALYPTUS WOODLAND AREAS ARE EXEMPT FROM THE MINIMUM HORIZONTAL TREE SPACING REQUIREMENT.
- b. INDIGENOUS, NATIVE TREES IN ALL AREAS ARE EXEMPT FROM THE MINIMUM HORIZONTAL TREE SPACING REQUIREMENT.

### BRUSH MANAGEMENT KEY NOTES

- 1. LIMIT OF WORK
- 2. RETAINING WALLS IN ZONE 1 TO BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS
- 3. APPROXIMATE LIMIT OF EXISTING OFF-SITE PRIVATE IRRIGATION
- 4. ACACIA AND PALM REMOVAL WITH NATIVE BMZ APPROPRIATE REPLACEMENTS WILL OCCUR IN PORTIONS OF BMZ 2 AND IN THE VICINITY OF THE PROJECT PER THE RECON RESTORATION AND REVEGETATION PLAN FOR THE NORTH UNIVERSITY FIRE STATION 50 PROJECT, SAN DIEGO, CALIFORNIA (JULY 12TH, 2017).

### BRUSH MANAGEMENT NOTES

BRUSH MANAGEMENT IS REQUIRED IN ALL BASE ZONES ON PUBLICLY OR PRIVATELY OWNED PREMISES THAT ARE WITHIN 100 FEET OF A STRUCTURE AND CONTAIN NATIVE OR NATURALIZED VEGETATION.

#### BRUSH MANAGEMENT ZONES:

- BRUSH MANAGEMENT ZONE ONE IS THE AREA ADJACENT TO THE STRUCTURE, SHALL BE LEAST FLAMMABLE, AND SHALL TYPICALLY CONSIST OF PAVEMENT AND PERMANENTLY IRRIGATED ORNAMENTAL PLANTING.
- BRUSH MANAGEMENT ZONE TWO IS THE AREA BETWEEN ZONE ONE AND ANY AREA OF NATIVE OR NATURALIZED VEGETATION AND TYPICALLY CONSISTS OF THINNED, NATIVE OR NATURALIZED NON-IRRIGATED VEGETATION.
- BRUSH MANAGEMENT ACTIVITIES ARE PROHIBITED WITHIN COASTAL SAGE SCRUB, MARITIME SUCCULENT SHRUB, AND CHAPARRAL HABITATS DURING THE BREEDING SEASON OF FEDERALLY PROTECTED SPECIES, FROM MARCH 1 TO AUGUST 15, EXCEPT WHERE DOCUMENTED TO THE SATISFACTION OF THE CITY OF SAN DIEGO THAT THE THINNING WOULD BE CONSISTENT WITH THE CONDITIONS OF SPECIES COVERAGE DESCRIBED IN THE CITY OF SAN DIEGO'S MSCP SUBAREA PLAN.

#### ZONE ONE REQUIREMENTS

- THE REQUIRED ZONE ONE WIDTH SHALL BE PROVIDED BETWEEN NATIVE OR NATURALIZED VEGETATION AND ANY STRUCTURE AND SHALL BE MEASURED FROM THE EXTERIOR OF THE STRUCTURE TO THE VEGETATION.
- ZONE ONE SHALL CONTAIN NO HABITABLE STRUCTURES, STRUCTURES THAT ARE DIRECTLY ATTACHED TO HABITABLE STRUCTURES, OR OTHER COMBUSTIBLE CONSTRUCTION THAT PROVIDES A MEANS FOR TRANSMITTING FIRE TO THE HABITABLE STRUCTURES. STRUCTURES SUCH AS FENCES, WALLS, PALAPAS, PLAY STRUCTURES, AND NON-HABITABLE GAZEBOS THAT ARE LOCATED WITHIN BRUSH MANAGEMENT ZONE ONE SHALL BE OF NONCOMBUSTIBLE, ONE HOUR FIRE-RATED OR HEAVY TIMBER CONSTRUCTION.
- PLANTS WITHIN ZONE ONE SHALL BE PRIMARILY LOW-GROWING AND LESS THAN 4 FEET IN HEIGHT WITH THE EXCEPTION OF TREES. PLANTS SHALL BE LOW-FUEL AND FIRE-RESISTIVE.
- TREES WITHIN ZONE ONE SHALL BE LOCATED AWAY FROM STRUCTURES TO A MINIMUM DISTANCE OF 10 FEET AS MEASURED FROM THE STRUCTURES TO THE DRIP LINE OF THE TREE AT MATURITY IN ACCORDANCE WITH THE LANDSCAPE STANDARDS OF THE LAND DEVELOPMENT MANUAL.
- PERMANENT IRRIGATION IS REQUIRED FOR ALL PLANTING AREAS WITHIN ZONE ONE EXCEPT AS FOLLOWS: (A) WITH PLANTING AREAS CONTAIN ONLY SPECIES THAT DO NOT GROW TALLER THAN 24 INCHES IN HEIGHT, OR (B) WHEN PLANTING AREAS CONTAIN ONLY NATIVE OR NATURALIZED SPECIES THAT ARE NOT SUMMER-DORMANT AND HAVE A MAXIMUM HEIGHT AT PLANT MATURITY OF LESS THAN 24 INCHES.
- ZONE ONE IRRIGATION OVERSPRAY AND RUNOFF SHALL NOT BE ALLOWED INTO ADJACENT AREAS OF NATIVE OR NATURALIZED VEGETATION.
- ZONE ONE SHALL BE MAINTAINED ON A REGULAR BASIS BY PRUNING AND THINNING PLANTS, CONTROLLING WEEDS, AND MAINTAINING IRRIGATION SYSTEMS.

#### ZONE TWO REQUIREMENTS

- THE REQUIRED ZONE TWO WIDTH OF SHALL BE PROVIDED BETWEEN ZONE ONE AND THE UNDISTURBED, NATIVE OR NATURALIZED VEGETATION, AND SHALL BE MEASURED FROM THE EDGE OF ZONE ONE THAT IS FARTHEST FROM THE HABITABLE STRUCTURE, TO THE EDGE OF UNDISTURBED VEGETATION.
- NO STRUCTURES SHALL BE CONSTRUCTED IN ZONE TWO.
- WITHIN ZONE TWO, 50 PERCENT OF THE PLANTS OVER 24 INCHES IN HEIGHT SHALL BE CUT AND CLEARED TO A HEIGHT OF 6 INCHES.
- WITHIN ZONE TWO, ALL PLANTS REMAINING AFTER 50 PERCENT ARE REDUCED IN HEIGHT, SHALL BE PRUNED TO REDUCE FUEL LOADING IN ACCORDANCE WITH THE LANDSCAPE STANDARDS IN THE LAND DEVELOPMENT MANUAL. NON-NATIVE PLANTS SHALL BE PRUNED BEFORE NATIVE PLANTS ARE PRUNED.
- ZONE TWO SHALL BE MAINTAINED ON A REGULAR BASIS BY PRUNING AND THINNING PLANTS, REMOVING INVASIVE SPECIES, AND CONTROLLING WEEDS.

### BRUSH MANAGEMENT ZONE WIDTH REQUIREMENTS (TABLE 142-04H)

SYMBOL	CRITERIA	ZONE WIDTH
	ZONE ONE	Varies (79' max.)
	ZONE TWO	Varies (57' max.)

### BRUSH MANAGEMENT MAINTENANCE

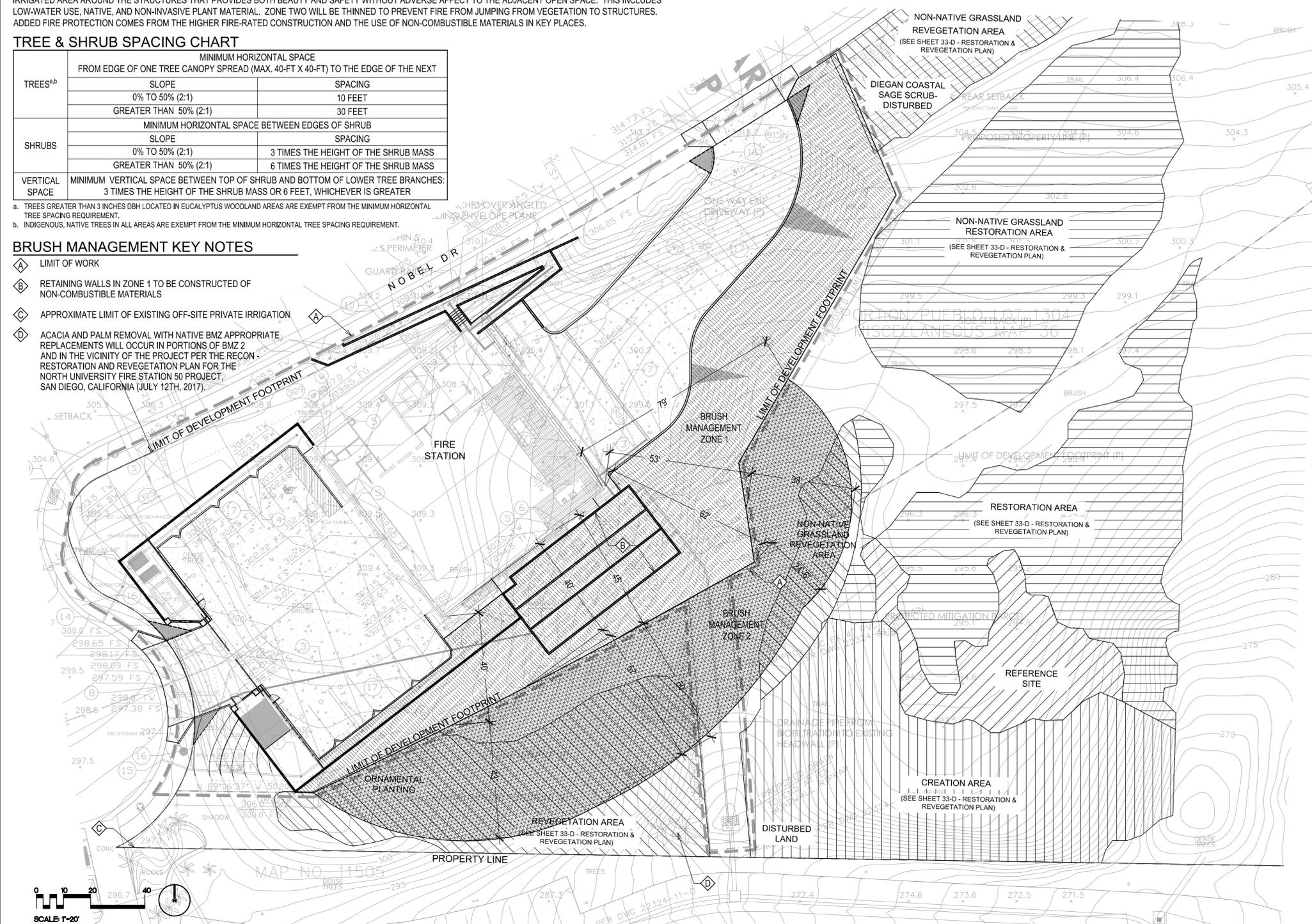
ALL LANDSCAPE AS SHOWN ON THESE PLANS, INCLUDING BRUSH MANAGEMENT AREAS SHALL BE MAINTAINED BY THE CITY IN A DISEASE, WEED, AND LITTER FREE CONDITION AT ALL TIMES CONSISTENT WITH CITY OF SAN DIEGO MUNICIPAL CODE AND THE LAND DEVELOPMENT MANUAL.

### BRUSH MANAGEMENT IMPLEMENTATION

- A. THINNING AND PRUNING, NATIVE/NATURALIZED VEGETATION
- TWO KEY FACTORS IN CREATING A FIRE SAFE LANDSCAPE ARE PROVIDING FUEL DISCONTINUITY BY THE SEPARATION OF THE FLAMMABLE PLANT COVER (THINNING) AND REDUCTION IN FUEL LOAD BY CUTTING OUT DEAD AND EXCESS GROWTH OF THE NATIVE/NATURALIZED VEGETATION (PRUNING). PLANTS TO BE RETAINED SHOULD BE CONSISTENT WITH THE ALLOWABLE COVERAGE, MASSING AND SPACING REQUIRED IN THE BRUSH MANAGEMENT REGULATIONS AND THE LANDSCAPE STANDARDS. WHENEVER POSSIBLE, A PERSON KNOWLEDGEABLE ABOUT THE USE AND MAINTENANCE OF NATIVE PLANTS SHOULD BE CONSULTED TO OVERSEE THE SELECTION, THINNING, AND PRUNING OF THESE PLANTS. THE PROGRESSION OF WORK SHOULD PROCEED AS FOLLOWS: 1) REMOVE DEAD PLANTS, 2) THIN OUT BRUSH MANAGEMENT AREAS TO THE REQUIRED COVERAGE, 3) PRUNE REMAINING PLANTS, 4) DISPOSE OR MULCH DEBRIS AND TRIMMINGS, AND 5) MAINTAIN ZONE ONE ON A YEAR-ROUND BASIS, ZONE TWO ON A SEASONAL BASIS.
- THINNING – THIS FIRST STEP REQUIRES IDENTIFICATION OF THE NATIVE/NATURALIZED SPECIES AND A FAMILIARITY WITH THEIR VARIOUS CHARACTERISTICS SUCH AS ROOTING DEPTH, FUEL LOADS, FLAMMABILITY, AS WELL AS HABITAT AND AESTHETIC VALUE. THINNING SHOULD BE PRIORITIZED AS

- FOLLOWS: 1) INVASIVE NON-NATIVE SPECIES WITH THE EXCEPTION OF EUCALYPTUS TREES IN EUCALYPTUS WOODLAND AREAS, 2) NON-NATIVE SPECIES, 3) FLAMMABLE NATIVE SPECIES, 4) NATIVE SPECIES, AND 5) REGIONALLY SENSITIVE SPECIES. ALL VEGETATION THAT IS NOT TO BE REMOVED DURING THE INITIAL THINNING SHOULD BE NOTED OR FLAGGED. THE REMAINING PLANTS WHICH ARE NOT TO BE SAVED SHOULD BE CUT SIX INCHES ABOVE THE GROUND WITHOUT PULLING OUT THE ROOTS.
- CERTAIN NATIVE PLANTS, SUCH AS THOSE FOUND IN COASTAL SAGE SCRUB, SHOULD BE CUT BACK TO WITHIN 12 INCHES OF THE ROOT CROWN. AS SPROUTING AND RE-GROWTH OCCUR, THESE PLANTS CAN BE MAINTAINED AS LOW, SUCCULENT MOUNDS. EXAMPLES INCLUDE ARTEMISIA CALIFORNICA (CALIFORNIA SAGEBRUSH), SALVIA MELLIFERA (BLACK SAGE), ADENOSTOMA FASCICULATUM (CHAMISE) AND ERIOGONUM FASCICULATUM (BUCKWHEAT).
- PRUNING – AFTER THINNING OF THE NATIVE/NATURALIZED VEGETATION, THE FUEL LOAD SHOULD BE FURTHER REDUCED BY PRUNING THE PLANTS THAT HAVE NOT BEEN REMOVED. WHILE PRUNING INDIVIDUAL PLANTS IS NOT FEASIBLE IN COASTAL SAGE SCRUB, IT IS VERY EFFECTIVE FOR MANY

- HARD CHAPARRAL SPECIES, SUCH AS CEANOTHUS (WILD LILAC), HETEROMELES (TOYON), RHUS (LEMONADE BERRY, SUGARBUSH), AND RHAMNUS (COFFEEBERRY, REDBERRY). THESE PLANTS CAN BE SHAPED INTO ATTRACTIVE, FIRE SAFE SPECIMENS BY PRUNING DEAD AND EXCESSIVELY TWIGGY GROWTH. REMOVE THE LIMBS TOUCHING THE GROUND AND A LARGE VOLUME OF MATERIAL FROM THE CANOPY. THE LIMBS THAT REMAIN SHOULD BE THOSE WITH YOUNG, VIGOROUS SHOOTS.
- B. THINNING AND PRUNING, TREES
- TREES ARE ALLOWED WITHIN THE DEFENSIBLE SPACE, PROVIDED THE HORIZONTAL AND VERTICAL DISTANCE BETWEEN TREES AND SHRUBS MASSES COMPLIES WITH REQUIRED SPACING FOR THE SLOPE GRADIENT SHOWN IN THE TREE AND SHRUB SPACING CHART.
- VERTICAL CLEARANCE BETWEEN TREES AND SHRUBS CAN BE CREATED BY PRUNING UP THE TREE CANOPY, REDUCING THE HEIGHT OF THE SHRUBS, OR A COMBINATION THEREOF. CANOPIES OF EXISTING TREES THAT EXTEND WITHIN 10 FEET OF ANY STRUCTURE SHALL BE PRUNED TO MAINTAIN A MINIMUM HORIZONTAL AND VERTICAL CLEARANCE OF 10 FEET. PORTIONS OF TREE CANOPIES THAT EXTEND WITHIN 10 FEET OF THE OUTLET OF A CHIMNEY SHALL BE PRUNED TO MAINTAIN A MINIMUM HORIZONTAL AND VERTICAL CLEARANCE OF 10 FEET.



L1.2

SAN DIEGO FIRE STATION 50

 <small>NERI LANDSCAPE ARCHITECTURE</small> <small>200 HIGHLAND AVENUE, SUITE 400</small> <small>SAN DIEGO, CA 92109</small> <small>TEL: 619.594.3222</small> <small>WWW.NLA.COM</small>	BRUSH MANAGEMENT PLAN		07 - D
	BRIDGING DOCUMENTS FOR		
<b>FIRE STATION 50</b>			
SE CORNER OF NOBEL DR. AND SHORELINE DR.			
CITY OF SAN DIEGO, CALIFORNIA		WBS S-13021	
PUBLIC WORKS DEPARTMENT		SHEET 07 OF 33 SHEETS	
APPROVED:	FOR CITY ENGINEER	DATE	SUBMITTED BY:
			JASON GRANI
			SENIOR ENGINEER
PRINT NAME:	RCE#	DATE	CHECKED BY:
			JASIAH NEFF
DESCRIPTION:	BY:	APPROVED:	PROJECT MANAGER
ORIGINAL	XXXX	3.3.2017	254-1707
			CCS27 COORDINATE
			6274-1897
			CCS83 COORDINATE
			40304 -07-D
CONTRACTOR:	DATE STARTED:	DATE COMPLETED:	
INSPECTOR:			

**NOTE:** NEED TO SUPPLY EMERGENCY VEHICLE PREEMPTION EQUIPMENT (EVPE) TO CONTROL EXISTING TRAFFIC SIGNAL AT NOBEL DR. AND SHORELINE DR. ALSO CONTROLS EMERGENCY VEHICLE TRAFFIC SIGNALS AT MEDIAN BREAK NEAR EXIT DRIVEWAY

REF. TRAFFIC STUDY

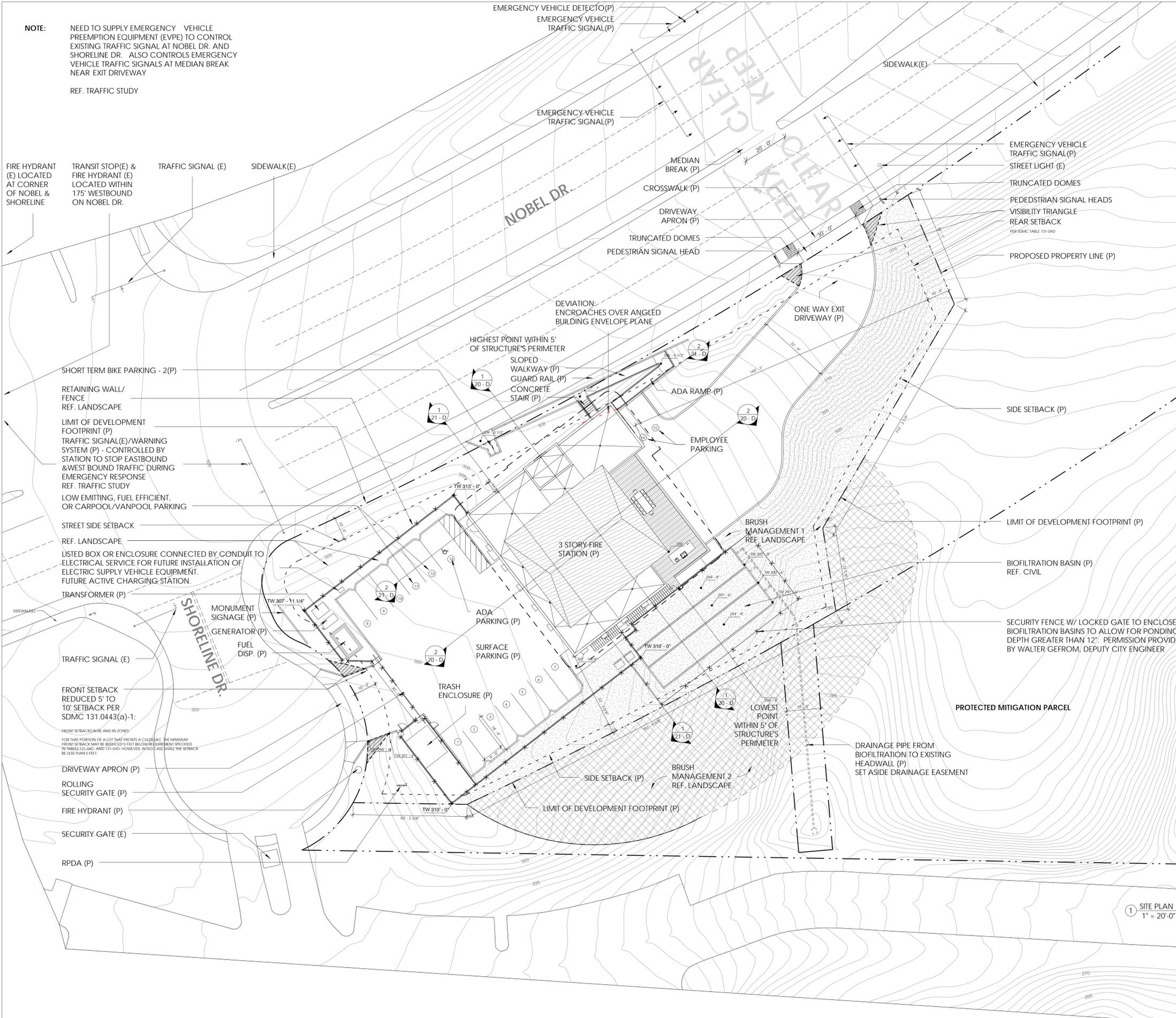
FIRE HYDRANT (E) LOCATED AT CORNER OF NOBEL & SHORELINE  
 TRANSIT STOP(E) & FIRE HYDRANT (E) LOCATED WITHIN 175' WESTBOUND ON NOBEL DR.  
 TRAFFIC SIGNAL (E)  
 SIDEWALK(E)

SHORT TERM BIKE PARKING - 2(P)  
 RETAINING WALL/ FENCE REF. LANDSCAPE  
 LIMIT OF DEVELOPMENT FOOTPRINT (P)  
 TRAFFIC SIGNAL(E)/WARNING SYSTEM (P) - CONTROLLED BY STATION TO STOP EASTBOUND & WEST BOUND TRAFFIC DURING EMERGENCY RESPONSE REF. TRAFFIC STUDY  
 LOW EMITTING, FUEL EFFICIENT, OR CARPOOL/VANPOOL PARKING  
 STREET SIDE SETBACK  
 REF. LANDSCAPE

LISTED BOX OR ENCLOSURE CONNECTED BY CONDUIT TO ELECTRICAL SERVICE FOR FUTURE INSTALLATION OF ELECTRIC SUPPLY VEHICLE EQUIPMENT. FUTURE ACTIVE CHARGING STATION.  
 TRANSFORMER (P)

FRONT SETBACK REDUCED 5' TO 10' SETBACK PER SDMC 131.0443(a)-1:  
FRONT SETBACKS IN RE AND RS ZONES FOR THAT PORTION OF A LOT THAT FRONTS A CALDECAT. THE MINIMUM FRONT SETBACK MAY BE REDUCED 5 FEET BELOW THE REQUIREMENT SPECIFIED IN TABLES 131.0443 AND 131.0444; HOWEVER, IN NO CASE SHALL THE SETBACK BE LESS THAN 5 FEET.

DRIVEWAY APRON (P)  
 ROLLING SECURITY GATE (P)  
 FIRE HYDRANT (P)  
 SECURITY GATE (E)  
 RPDA (P)



**GENERAL NOTES**

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3. DIMENSIONS SHOWN ARE TYPICAL OF THIS SHEET ONLY U.N.O
4. KEYNOTES ON THESE SHEETS ARE AN ACCUMULATION OF ITEMS FOUND ON PLANS, ELEVATIONS, SECTIONS. NOT ALL ITEMS ARE FOUND ON EACH SHEET.
5. ALL ROOFING TO BE CLASS 'A' FIRE RATED.
6. THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO LIGHTING ORDINANCE.
7. ROOF VENTS, DORMER VENTS, GABLE VENTS, CRAWLSPACE VENTS OR OTHER SIMILAR OPENINGS SHALL BE COVERED WITH 1/4" NON-COMBUSTIBLE CORROSION RESISTANT METAL MESH OR OTHER APPROVED MATERIAL THAT OFFERS EQUIVALENT PROTECTION
8. THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO, SAN DIEGO FIRE RESCUE DEPARTMENT - FIRE STATIONS AND FACILITIES DESIGN AND CONSTRUCTION STANDARDS

**SITE PLAN NOTES**

1. NO EXISTING OR PROPOSED EASEMENTS FOR THIS SITE
2. TRANSIT STOP LOCATED 200' WEST OF SHORELINE AND NOBEL
3. FOR DRAINAGE PLEASE SEE GRADING PLAN C.1.00
4. GEOLOGIC HAZARD CATEGORY 54 - STEEPLY SLOPING TERRAIN, UNFAVORABLE OR FAULT CONTROLLED GEOLOGIC STRUCTURE, MODERATE RISK
5. NO OBJECTS LOCATED IN VISIBILITY TRIANGLES TO EXCEED 36" IN HEIGHT
6. PER LDC SECTION 142.0409(b)(2), PLANT MATERIAL, OTHER THAN TREES, WITHIN THE PUBLIC RIGHT OF WAY THAT IS LOCATED WITHIN VISIBILITY AREAS SHALL NOT EXCEED 24" IN HEIGHT.
7. PARKING SPACES EAST OF APPARATUS BAY SHOULD BE SIGNED AS "EMPLOYEE ONLY". CANNOT BE ACCESSED BY PUBLIC.

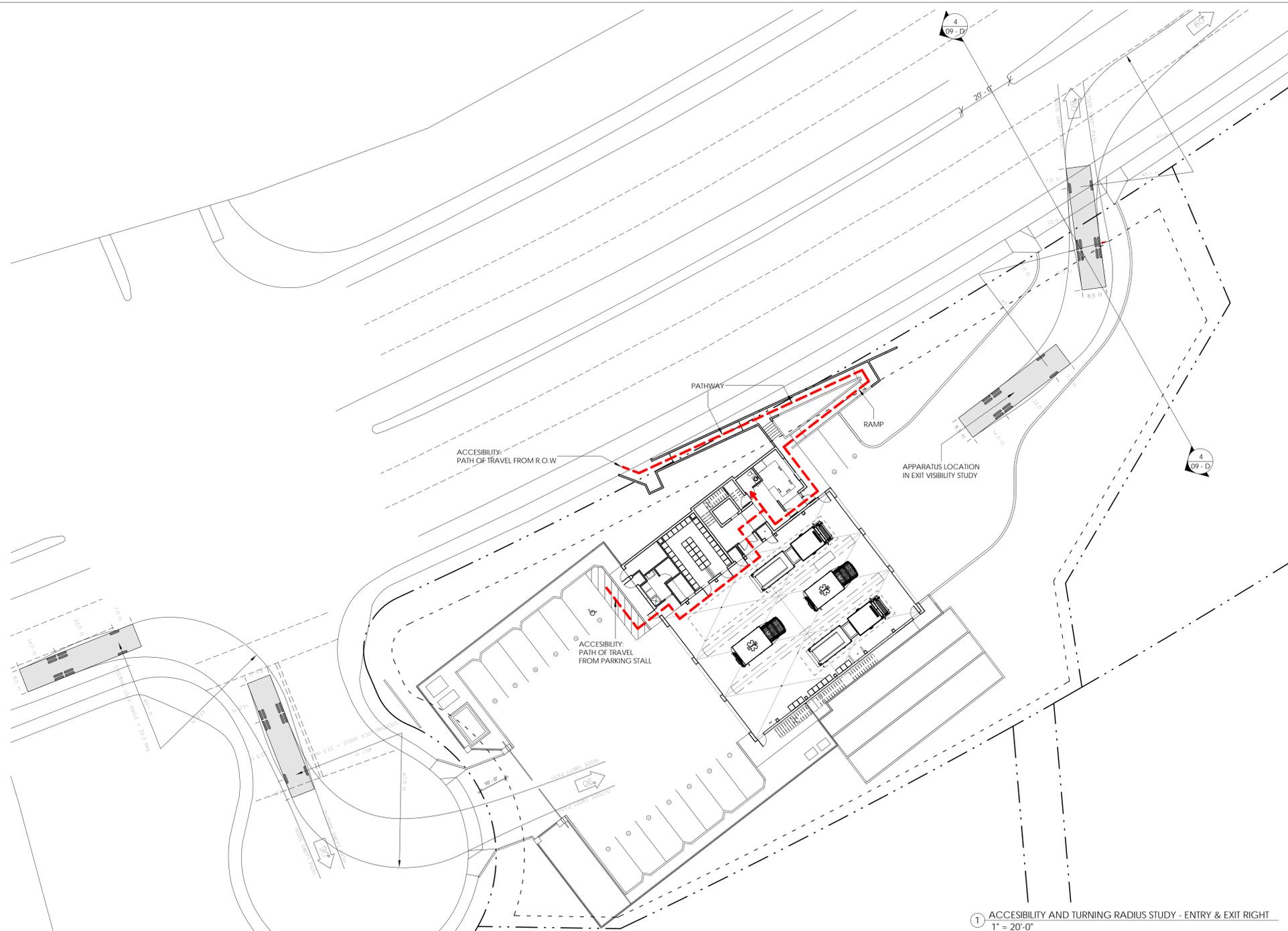
**LEGEND**



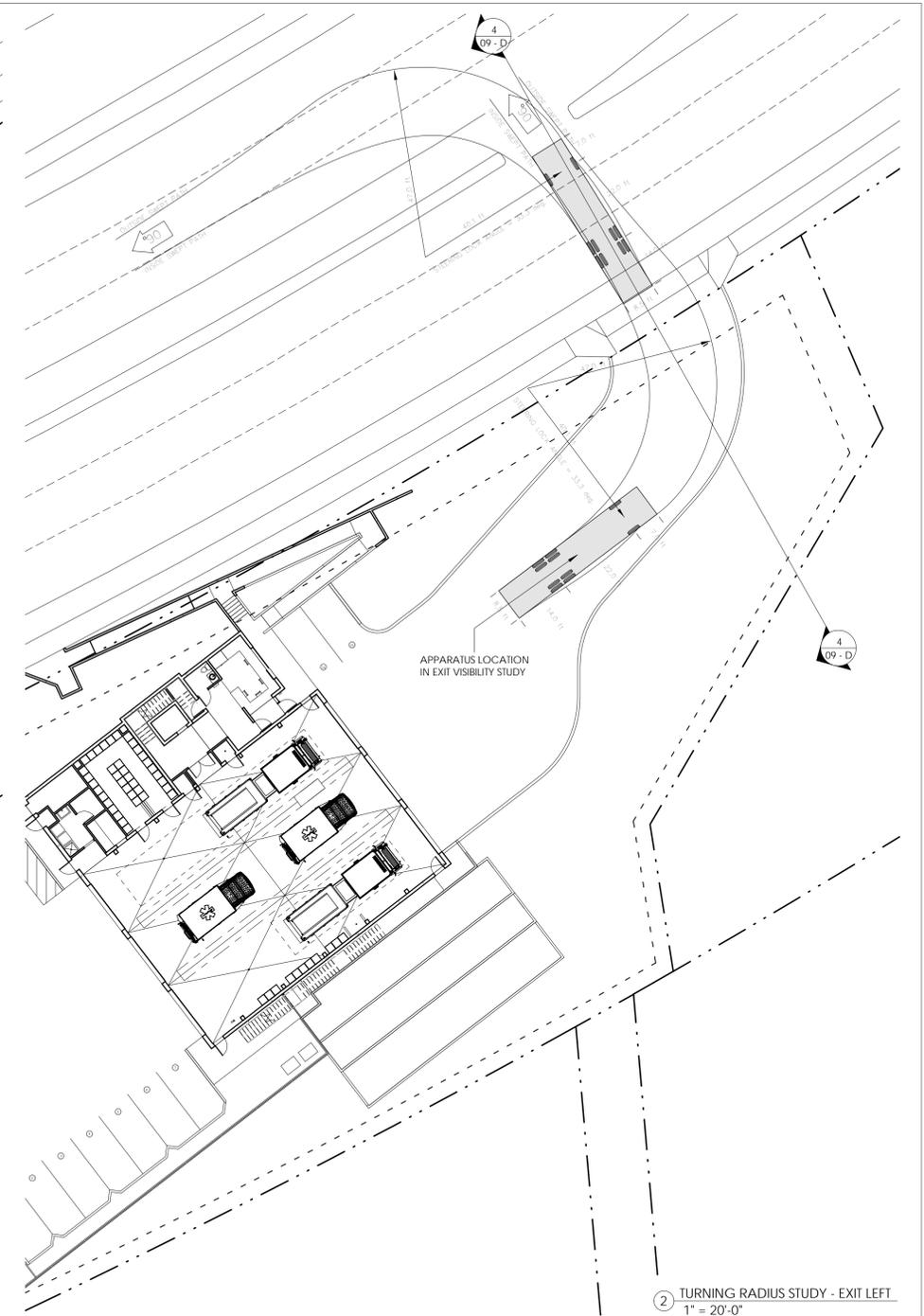
**SITE INFO**

ZONING:	RS-1-14
LIMIT OF DEVELOPMENT AREA:	39,870 SF
ALLOWABLE F.A.R.:	.60
MAX ALLOWABLE AREA:	23,922 SF (39,870 SF x .60)

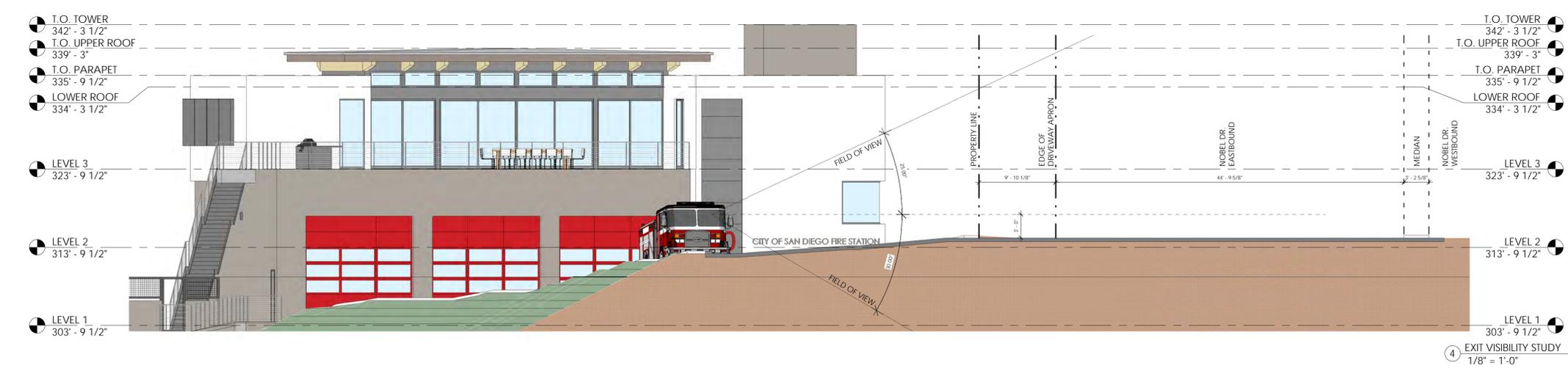
<b>SAFDIE RABINES ARCHITECTS</b> <small>925 CORT STOCKTON DRIVE          SAN DIEGO, CA 92103          619.291.8153          srarch@safdie.com</small>	<b>SITE PLAN</b>		<b>08 - D</b>
	<b>BRIDGING DOCUMENTS FOR</b> <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.		
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 08 OF 33 SHEETS		WBS S-13021
APPROVED:	FOR CITY ENGINEER	DATE	SUBMITTED BY: JASON GRANI SENIOR ENGINEER
PRINT NAME	RCE#	DATE	CHECKED BY: JASIAH NEFF PROJECT MANAGER
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	XXXX		3.3.2017
			254-1707 CCS27 COORDINATE
			6274-1897 CCS83 COORDINATE
CONTRACTOR	INSPECTOR	DATE STARTED	DATE COMPLETED
			40304 - 08 - D



1 ACCESSIBILITY AND TURNING RADIUS STUDY - ENTRY & EXIT RIGHT  
1" = 20'-0"

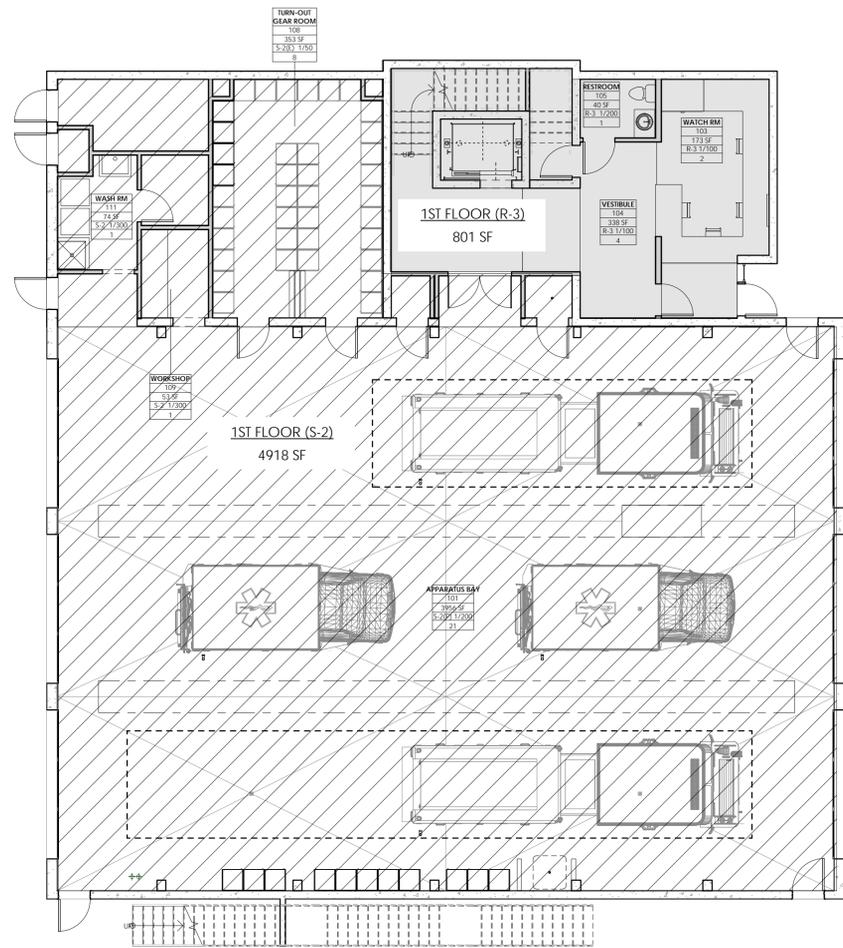


2 TURNING RADIUS STUDY - EXIT LEFT  
1" = 20'-0"

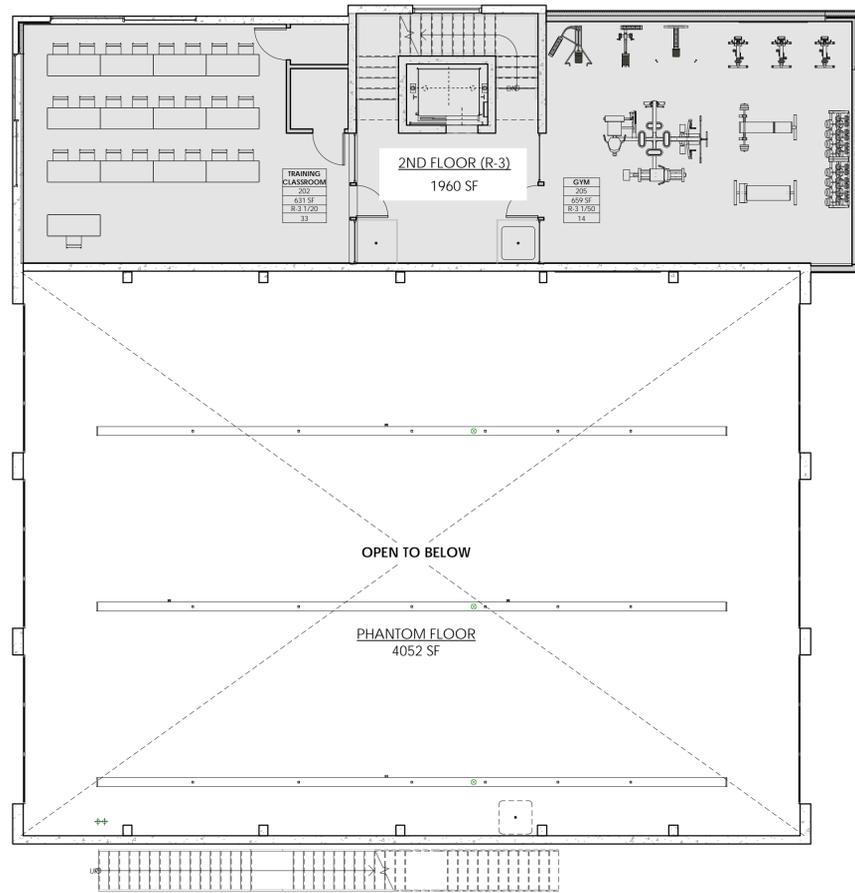


4 EXIT VISIBILITY STUDY  
1/8" = 1'-0"

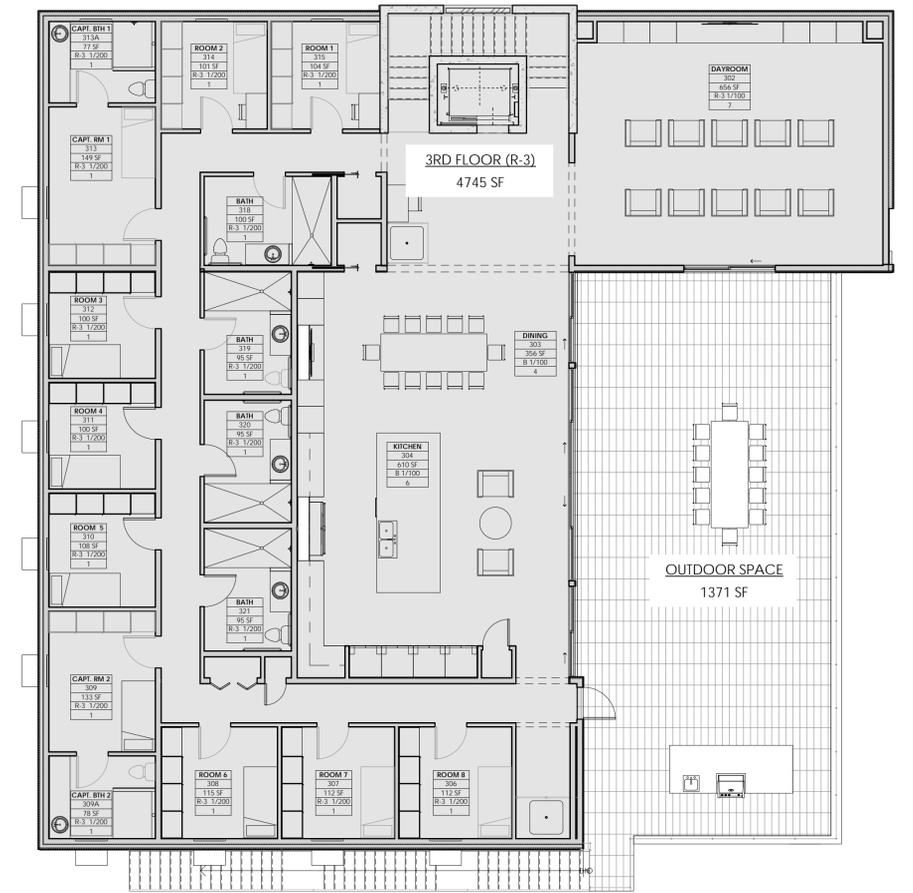
	<b>ACCESSIBILITY, TURNING, &amp; VISIBILITY STUDY</b>		<b>09 - D</b>	
	<b>BRIDGING DOCUMENTS FOR</b> <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.			
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 9 OF 33 SHEETS			WBS S-13021
APPROVED: FOR CITY ENGINEER	DATE	SUBMITTED BY: JASON GRANI SENIOR ENGINEER		
PRINT NAME	RCE#	CHECKED BY: JASIAH NEFF PROJECT MANAGER		
DESCRIPTION ORIGINAL	BY XXXX	APPROVED	DATE 3.3.2017	FILMED
CONTRACTOR				DATE STARTED
INSPECTOR				DATE COMPLETED
6274-1707 CCS27 COORDINATE 6274-1897 CCS83 COORDINATE				40304 - 09 - D



1 LEVEL 1 - AREA CALCULATION  
1/8" = 1'-0"



2 LEVEL 2 - AREA CALCULATION  
1/8" = 1'-0"

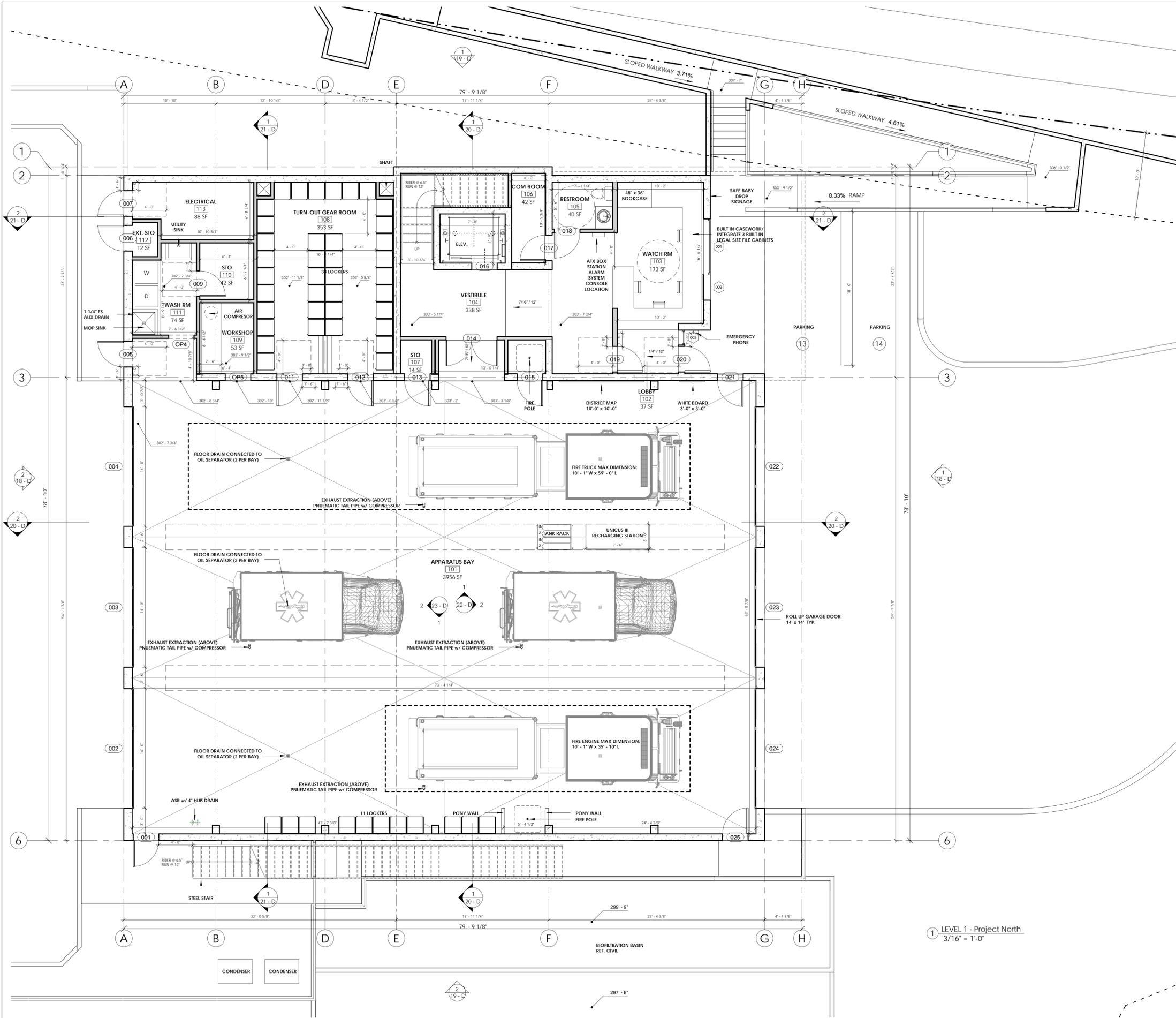


3 LEVEL 3 - AREA CALCULATIONS  
1/8" = 1'-0"

AREA CALCULATIONS	
<b>PROPOSED DESIGN:</b>	
LEVEL 1: R-3 OCCUPANCY	800 SF
S-2 OCCUPANCY	4,518 SF (400 SF CREDIT)
LEVEL 2: R-3 OCCUPANCY	1,960 SF
PHANTOM FLOOR	4,052 SF
LEVEL 3: R-3 OCCUPANCY	4,747 SF
<b>TOTAL GROSS FLOOR AREA</b>	<b>16,077 SF</b>
OUTDOOR PATIO	1,369 SF
<b>PROPOSED F.A.R.</b>	<b>.41</b>
<b>SITE INFO:</b>	
ZONING:	RS-1-14
LOTSIZE:	39,870 SF
ALLOWABLE F.A.R:	.60
<b>MAX ALLOWABLE AREA:</b> (39,870 SF x .60)	<b>23,922 SF</b>

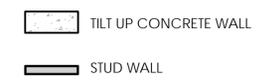
LEGEND	
	R-3 OCCUPANCY
	S-2 OCCUPANCY
	OUTDOOR PATIO

<b>SAFDIE RABINES ARCHITECTS</b> 925 CORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.8153 search@safdie-rabines.com		<b>AREA CALCULATION PLAN</b> 10 - D	
<b>BRIDGING DOCUMENTS FOR</b> <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.			
SPEC. NO.		CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 10 OF 33 SHEETS	
APPROVED: FOR CITY ENGINEER _____ DATE _____		SUBMITTED BY: JASON GRANI SENIOR ENGINEER	
PRINT NAME _____ RCE# _____		CHECKED BY: JASIAH NEFF PROJECT MANAGER	
DESCRIPTION ORIGINAL	BY XXXX	APPROVED DATE 3.3.2017	FILMED
CONTRACTOR _____		DATE STARTED _____ DATE COMPLETED _____	
INSPECTOR _____		WBS S-13021 6274-1707 CCS27 COORDINATE 6274-1897 CCS83 COORDINATE 40304 - 10 - D	



- GENERAL NOTES
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WALL LEGEND



SAFDIE RABINES ARCHITECTS  
 925 FORT STOCKTON DRIVE  
 SAN DIEGO, CA 92103  
 619.291.8153  
 srarch@safdierabines.com

**FLOOR PLAN - LEVEL 1** 11 - D

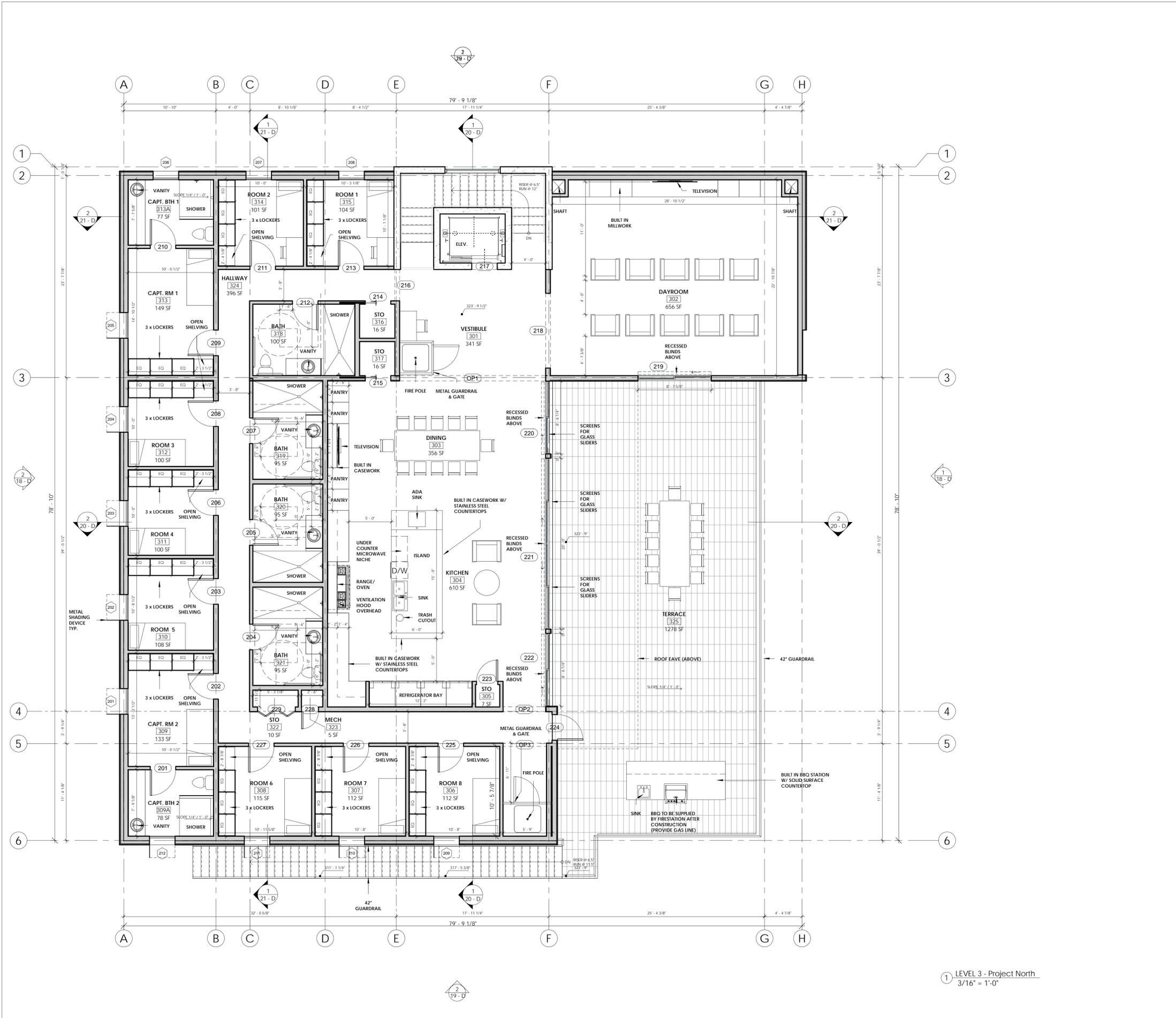
**BRIDGING DOCUMENTS FOR**  
**FIRE STATION 50**  
 SE CORNER OF NOBEL DR. AND SHORELINE DR.

SCALE AS INDICATED

SPEC. NO.		CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 11 OF 33 SHEETS		WBS S-13021
APPROVED FOR CITY ENGINEER	DATE	SUBMITTED BY JASON GRANI SENIOR ENGINEER		CHECKED BY JASIAH NEFF PROJECT MANAGER
PRINT NAME	RCE#	PROJECT NUMBER 254-1707		COORDINATE CCS27
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXXX		3.3.2017	
CONTRACTOR		DATE STARTED		40304 - 11 - D
INSPECTOR		DATE COMPLETED		

1 LEVEL 1 - Project North  
 3/16" = 1'-0"





- GENERAL NOTES
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WALL LEGEND

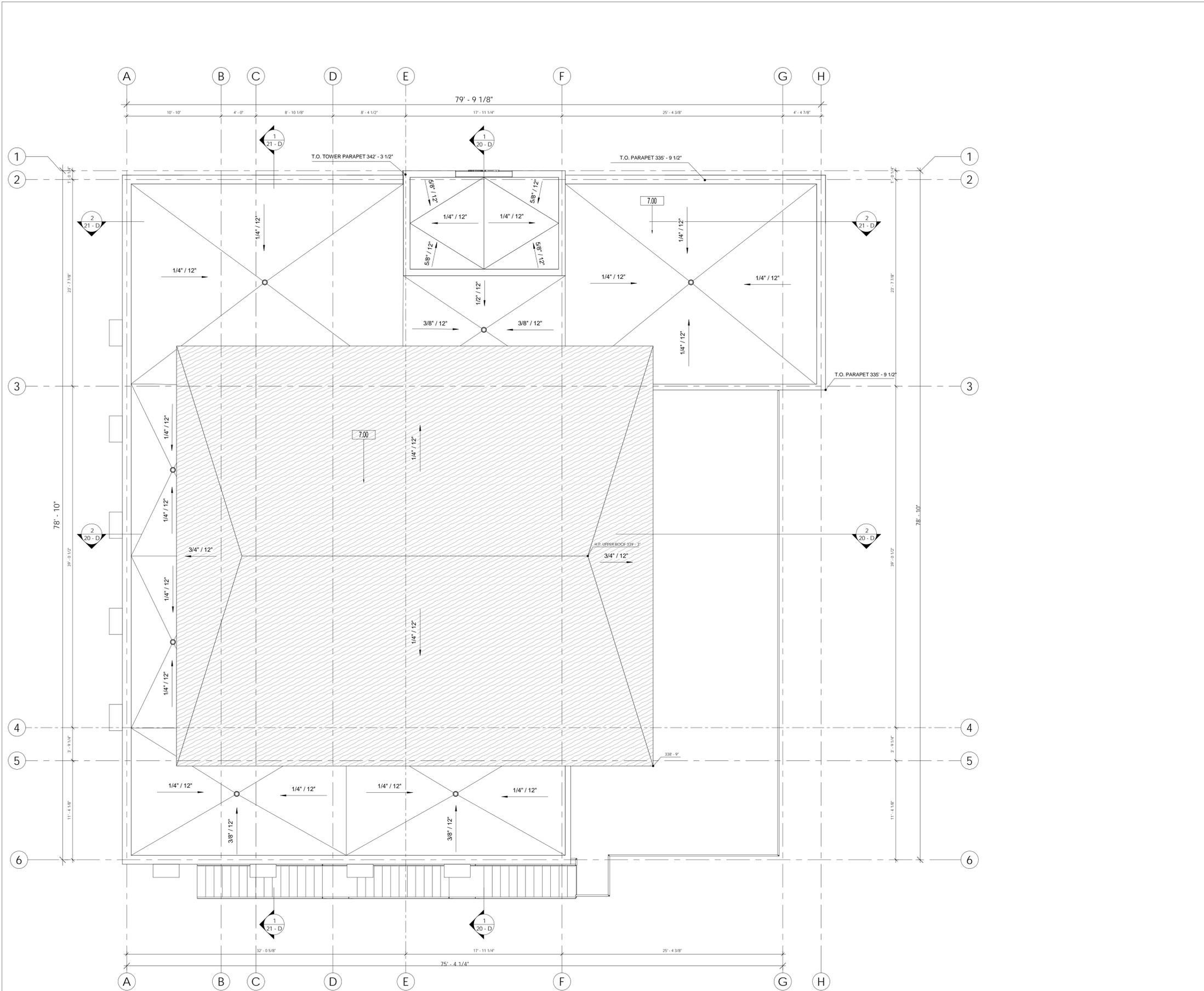
- TILT UP CONCRETE WALL
- STUD WALL

**FLOOR PLAN - LEVEL 3** 13 - D

**BRIDGING DOCUMENTS FOR**  
**FIRE STATION 50**  
SE CORNER OF NOBEL DR. AND SHORELINE DR.

SPEC. NO.		CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 13 OF 33 SHEETS		WBS S-13021	
APPROVED:		DATE		SUBMITTED BY:	
FOR CITY ENGINEER				JASON GRANI SENIOR ENGINEER	
PRINT NAME		RCER		CHECKED BY:	
ORIGINAL		XXXX		JASIAH NEFF PROJECT MANAGER	
DESCRIPTION		APPROVED		DATE	
				3.3.2017	
				254-1707 CCS27 COORDINATE	
				6274-1897 CCS83 COORDINATE	
CONTRACTOR		DATE STARTED		40304 - 13 - D	
INSPECTOR		DATE COMPLETED			

1 LEVEL 3 - Project North  
3/16" = 1'-0"



1 ROOF PLAN  
3/16" = 1'-0"

**GENERAL NOTES**

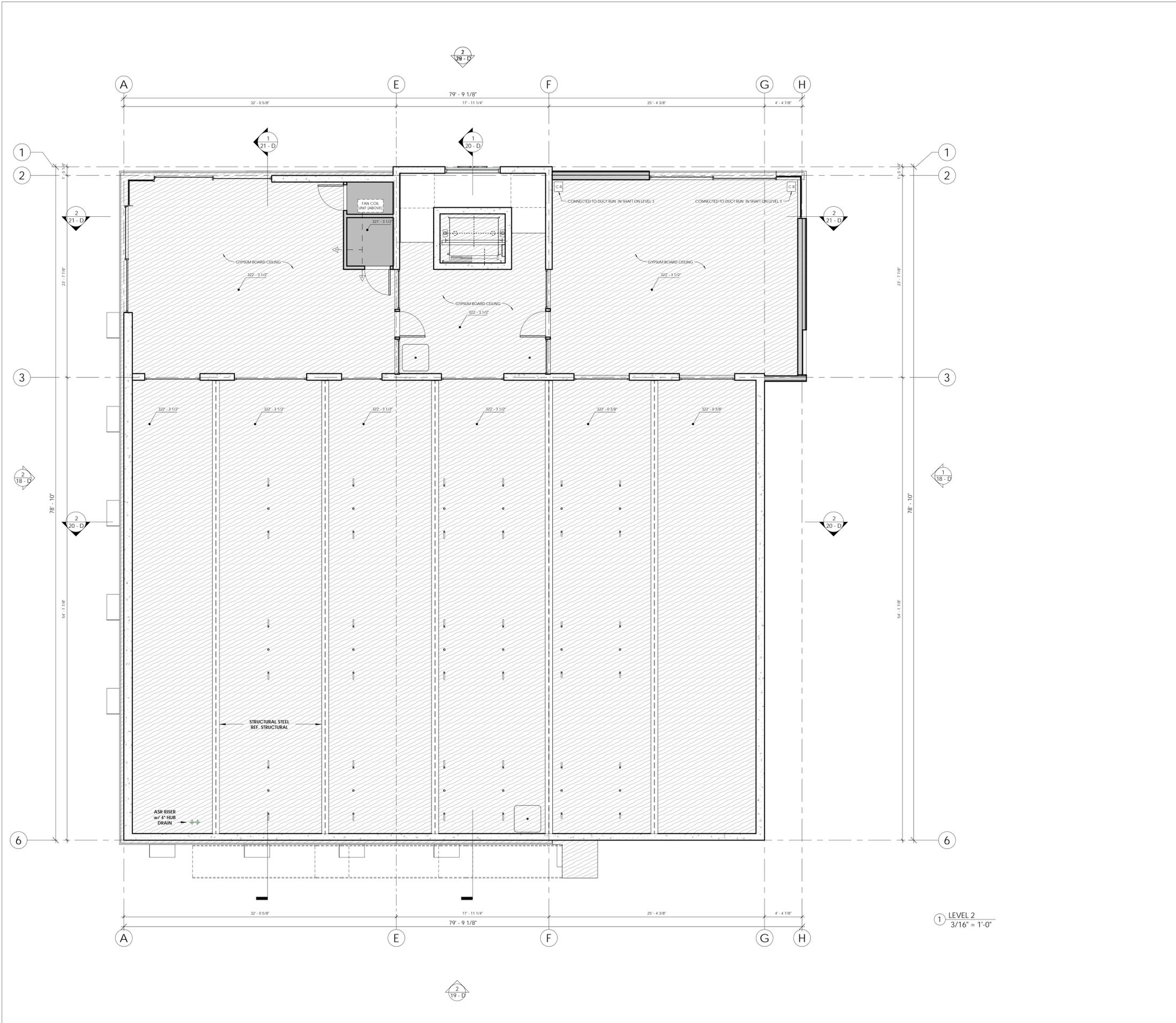
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**KEYNOTES**

7.00 PVC MEMBRANE ROOF

<p>SAFDIE RABINES ARCHITECTS 925 FORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.8153 rsarch@safdie.com</p>	<b>ROOF PLAN</b>		<b>14 - D</b>																				
	<p>BRIDGING DOCUMENTS FOR</p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>																						
<p>SCALE AS INDICATED</p>	<p>CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 14 OF 33 SHEETS</p>																						
<p>WBS S-13021</p>	<p>APPROVED: _____ DATE _____</p> <p>FOR CITY ENGINEER</p>																						
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DESCRIPTION	BY	APPROVED	DATE	FILMED																			
ORIGINAL	XXXX		3.3.2017																				
<p>CONTRACTOR _____ DATE STARTED _____</p> <p>INSPECTOR _____ DATE COMPLETED _____</p>	<p>40304 - 14 - D</p>																						





GENERAL NOTES

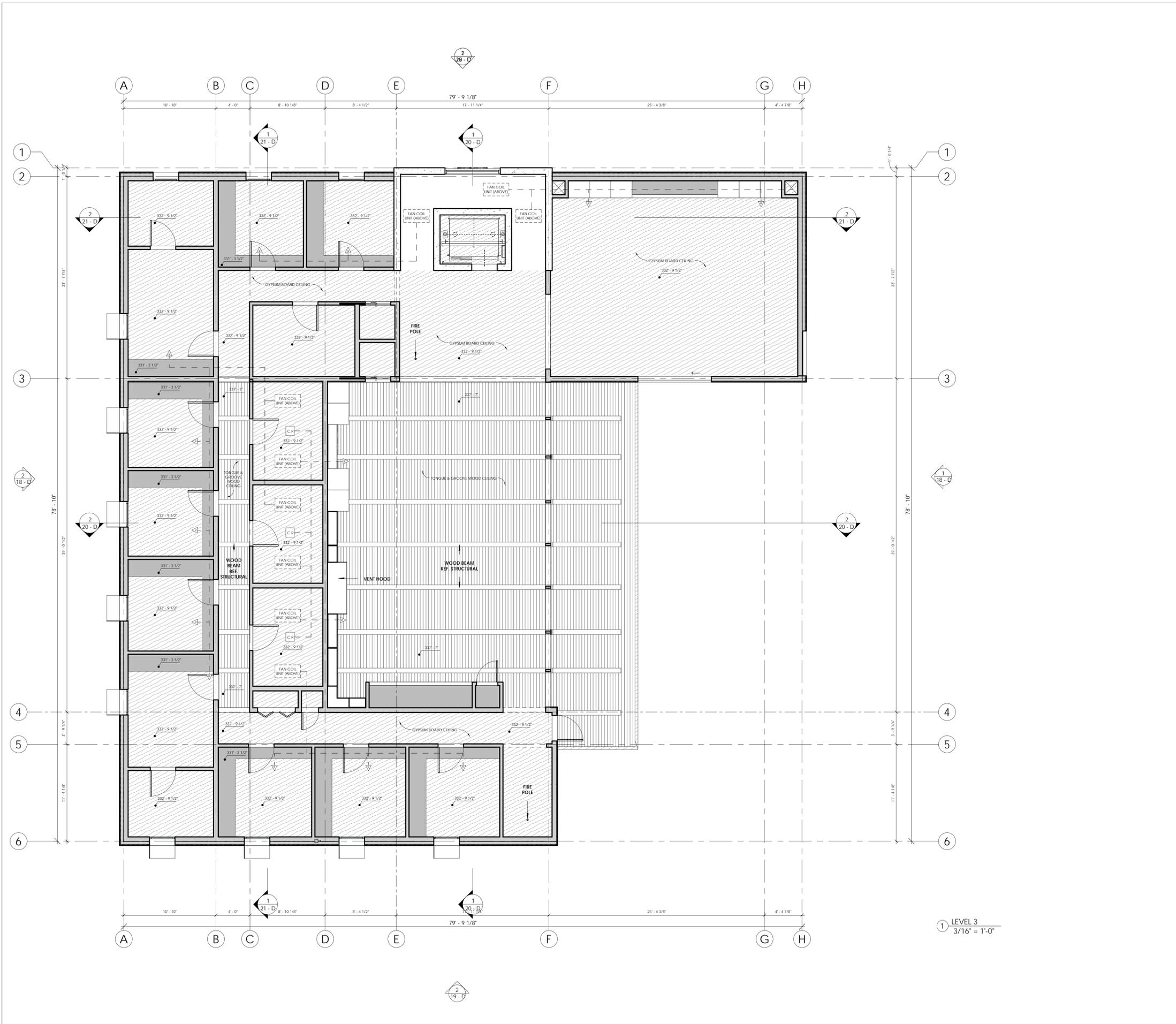
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REFLECTED CEILING PLAN LEGEND

	DROPPED SOFFIT	NOTE: HVAC LAYOUT IS CONCEPTUAL ONLY. DETAILED DESIGN WILL BE BY THE DESIGN BUILD CONTRACTOR.
	FAN COIL UNIT ABOVE	
	DUCT RUN ABOVE	
	CEILING REGISTER	
	WALL REGISTER	

<b>SAFDIE RABINES ARCHITECTS</b> <small>925 FORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.8153 sra@safrabines.com</small>	<b>RCP - LEVEL 2</b>	<b>16 - D</b>																																
<b>BRIDGING DOCUMENTS FOR FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.																																		
<b>SPEC. NO.</b>	<b>CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 16 OF 33 SHEETS</b>	<b>WBS S-13021</b>																																
<table border="0" style="width: 100%;"> <tr> <td>APPROVED:</td> <td>DATE</td> <td>SUBMITTED BY:</td> <td>JASON GRANI</td> </tr> <tr> <td>FOR CITY ENGINEER</td> <td></td> <td>PROJECT MANAGER</td> <td></td> </tr> <tr> <td>PRINT NAME</td> <td>RCE#</td> <td>CHECKED BY:</td> <td>JASIAH NEFF</td> </tr> <tr> <td>DESCRIPTION</td> <td>BY</td> <td>APPROVED</td> <td>DATE</td> <td>FILMED</td> </tr> <tr> <td>ORIGINAL</td> <td>XXXX</td> <td></td> <td>3.3.2017</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		APPROVED:	DATE	SUBMITTED BY:	JASON GRANI	FOR CITY ENGINEER		PROJECT MANAGER		PRINT NAME	RCE#	CHECKED BY:	JASIAH NEFF	DESCRIPTION	BY	APPROVED	DATE	FILMED	ORIGINAL	XXXX		3.3.2017												PROJECT MANAGER <b>254-1707</b> CCS27 COORDINATE <b>6274-1897</b> CCS83 COORDINATE <b>40304 - 16 - D</b>
APPROVED:	DATE	SUBMITTED BY:	JASON GRANI																															
FOR CITY ENGINEER		PROJECT MANAGER																																
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ORIGINAL	XXXX		3.3.2017																															
CONTRACTOR _____ DATE STARTED _____ INSPECTOR _____ DATE COMPLETED _____																																		

SAN DIEGO FIRE STATION 50



GENERAL NOTES

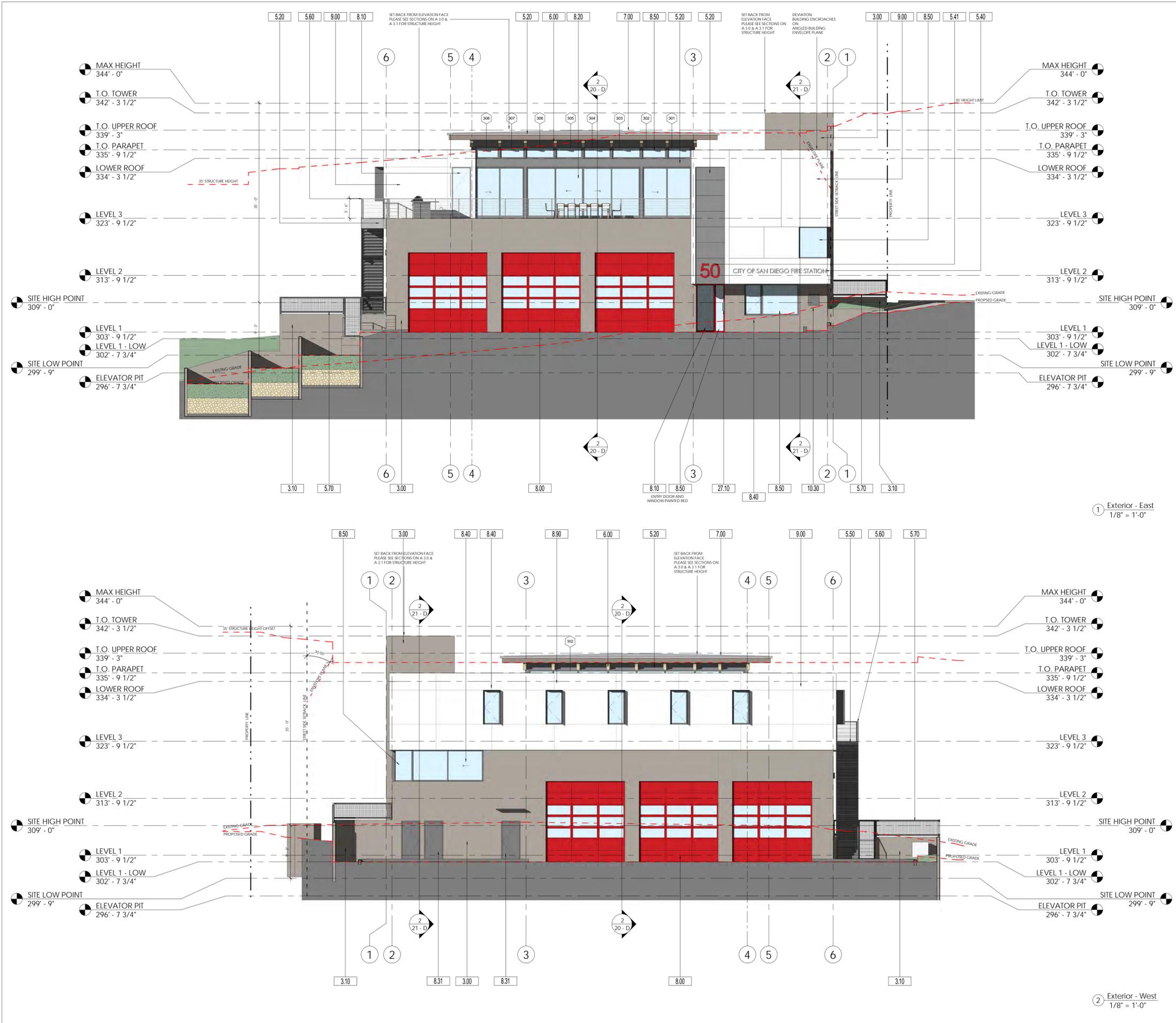
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	DUCT RUN ABOVE	
	CEILING REGISTER	
	WALL REGISTER	

<p><b>SAFDIE RABINES ARCHITECTS</b>                  925 FORT STOCKTON DRIVE                  SAN DIEGO, CA 92103                  619.297.8153                  sarach@safdie-rabines.com</p>	<p><b>RCP - LEVEL 3</b></p>	<p><b>17 - D</b></p>																				
<p><b>BRIDGING DOCUMENTS FOR</b></p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>																						
	<p>SCALE AS INDICATED</p>																					
<p>SPEC. NO. _____</p>	<p>CITY OF SAN DIEGO, CALIFORNIA                  PUBLIC WORKS DEPARTMENT                  SHEET 17 OF 33 SHEETS</p>																					
<p>APPROVED:                  FOR CITY ENGINEER _____ DATE _____</p>	<p>SUBMITTED BY:                  JASON GRANI                  SENIOR ENGINEER</p>																					
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DESCRIPTION	BY	APPROVED	DATE	FILMED																		
ORIGINAL	XXXX		3.3.2017																			
<p>CONTRACTOR _____ DATE STARTED _____</p> <p>INSPECTOR _____ DATE COMPLETED _____</p>	<p>40304 - 17 - D</p>																					

1 LEVEL 3  
3/16" = 1'-0"

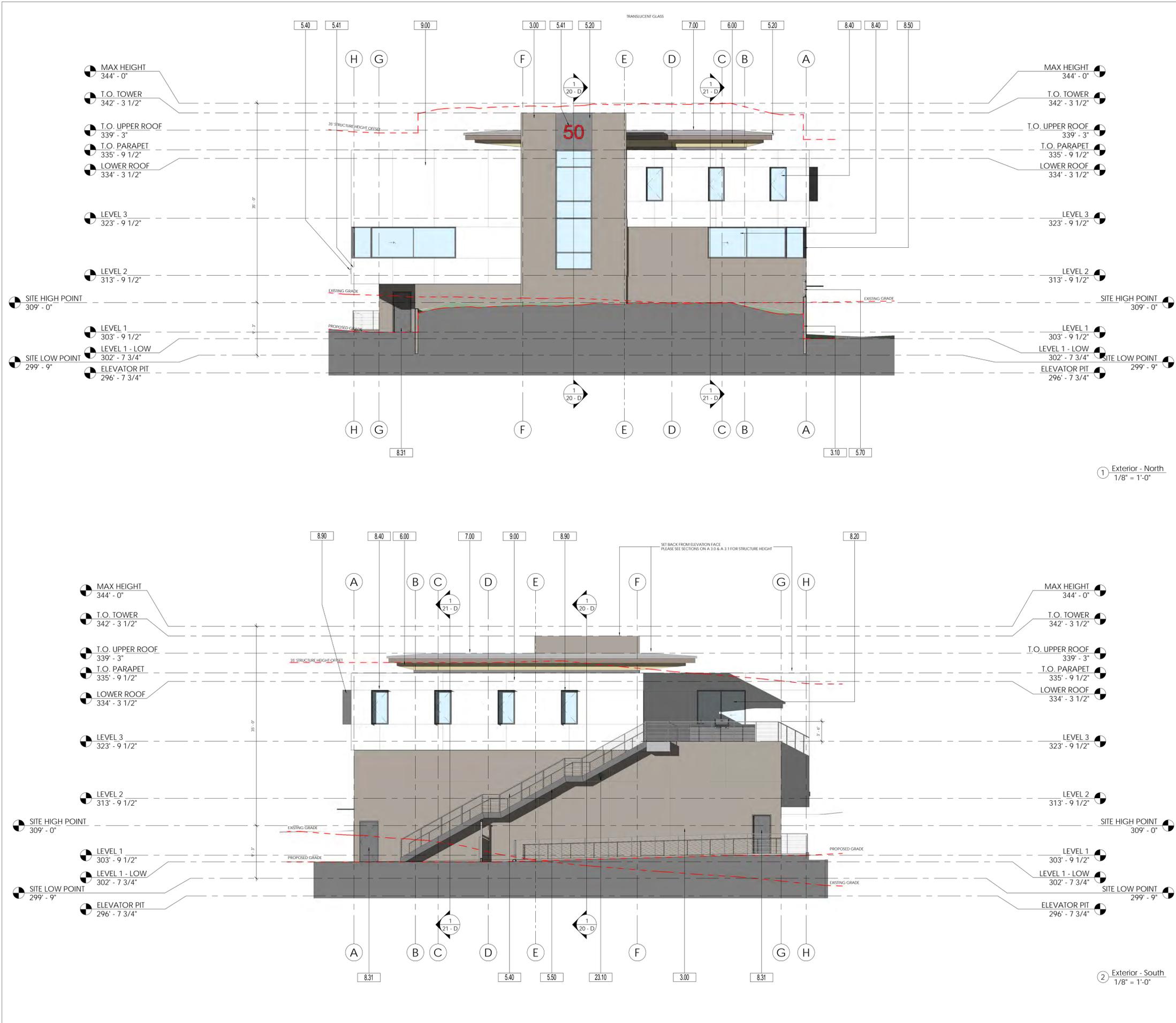


**GENERAL NOTES**

1. GRIDLINES ARE MEASURED TO THE CENTER OF STRUCTURE U.N.O
2. INTERIOR DIMENSIONS ARE MEASURED TO FACE OF FINISH U.N.O
3. DIMENSIONS SHOWN ARE TYPICAL OF THIS SHEET ONLY U.N.O
4. KEYNOTES ON THESE SHEETS ARE AN ACCUMULATION OF ITEMS FOUND ON PLANS, ELEVATIONS, SECTIONS. NOT ALL ITEMS ARE FOUND ON EACH SHEET.
5. ALL ROOFING TO BE CLASS 'A' FIRE RATED.
6. THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO LIGHTING ORDINANCE.
7. ROOF VENTS, DORMER VENTS, GABLE VENTS, CRAWLSPACE VENTS OR OTHER SIMILAR OPENINGS SHALL BE COVERED WITH 1/4" NON-COMBUSTIBLE CORROSION RESISTANT METAL MESH OR OTHER APPROVED MATERIAL THAT OFFERS EQUIVALENT PROTECTION
8. THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO, SAN DIEGO FIRE RESCUE DEPARTMENT - FIRE STATIONS AND FACILITIES DESIGN AND CONTRUCTION STANDARDS

- KEYNOTES**
- 3.00 TILT UP CONCRETE WALL - ARCHITECTURAL FINISH W/ INTEGRAL COLOR
  - 3.10 CONCRETE RETAINING WALL
  - 5.20 ALUMINUM BREAK METAL PANEL - KYNAR COATING
  - 5.40 SIGNAGE - ALUMINUM
  - 5.41 SIGNAGE - ALUMINUM (PAINTED RED)
  - 5.50 METAL STAIRS PAINTED
  - 5.60 STAINLESS STEEL CABLE RAILING
  - 5.70 TUBE STEEL FENCE w/ 3" WIRE MESH
  - 6.00 WOOD BEAMS PER STRUCTURAL
  - 7.00 PVC MEMBRANE ROOF
  - 8.00 ROLL UP GARAGE DOORS - PAINTED RED
  - 8.10 ALUMINUM DOOR SYSTEM
  - 8.20 ALUMINUM SLIDING DOOR SYSTEM
  - 8.31 METAL DOORS
  - 8.40 ALUMINUM WINDOW SYSTEM - OPERABLE
  - 8.50 ALUMINUM WINDOW SYSTEM - FIXED
  - 8.90 METAL SHADING DEVICE - ALUMINUM
  - 9.00 7/8" THREE COAT CEMENT PLASTER - SMOOTH ACRYLIC FINISH
  - 10.30 SAFE BABY DROP OFF SIGNAGE
  - 27.10 EMERGENCY PHONE

<p><b>SAFDIE RABINES ARCHITECTS</b>                  925 COIT STOCKTON DRIVE                  SAN DIEGO, CA 92103                  619.291.6153                  srarch@safrdie.com</p>		<p><b>EXTERIOR ELEVATIONS</b></p>		<p><b>18 - D</b></p>	
<p><b>BRIDGING DOCUMENTS FOR</b></p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>					
<p>SCALE 1/8" = 1'-0"</p>		<p>CITY OF SAN DIEGO, CALIFORNIA                  PUBLIC WORKS DEPARTMENT                  SHEET 18 OF 33 SHEETS</p>			<p>WBS S-13021</p>
<p>SPEC. NO.</p>		<p>APPROVED FOR CITY ENGINEER _____ DATE _____</p> <p>PRINT NAME _____ RCE# _____</p>		<p>SUBMITTED BY JASON GRANI SENIOR ENGINEER</p>	
<p>CONTRACTOR _____</p> <p>INSPECTOR _____</p>		<p>DATE STARTED _____</p> <p>DATE COMPLETED _____</p>		<p>CHECKED BY JASIAH NEFF PROJECT MANAGER</p> <p>254-1707 CCS27 COORDINATE</p> <p>6274-1897 CCS83 COORDINATE</p> <p>40304 - 18 - D</p>	



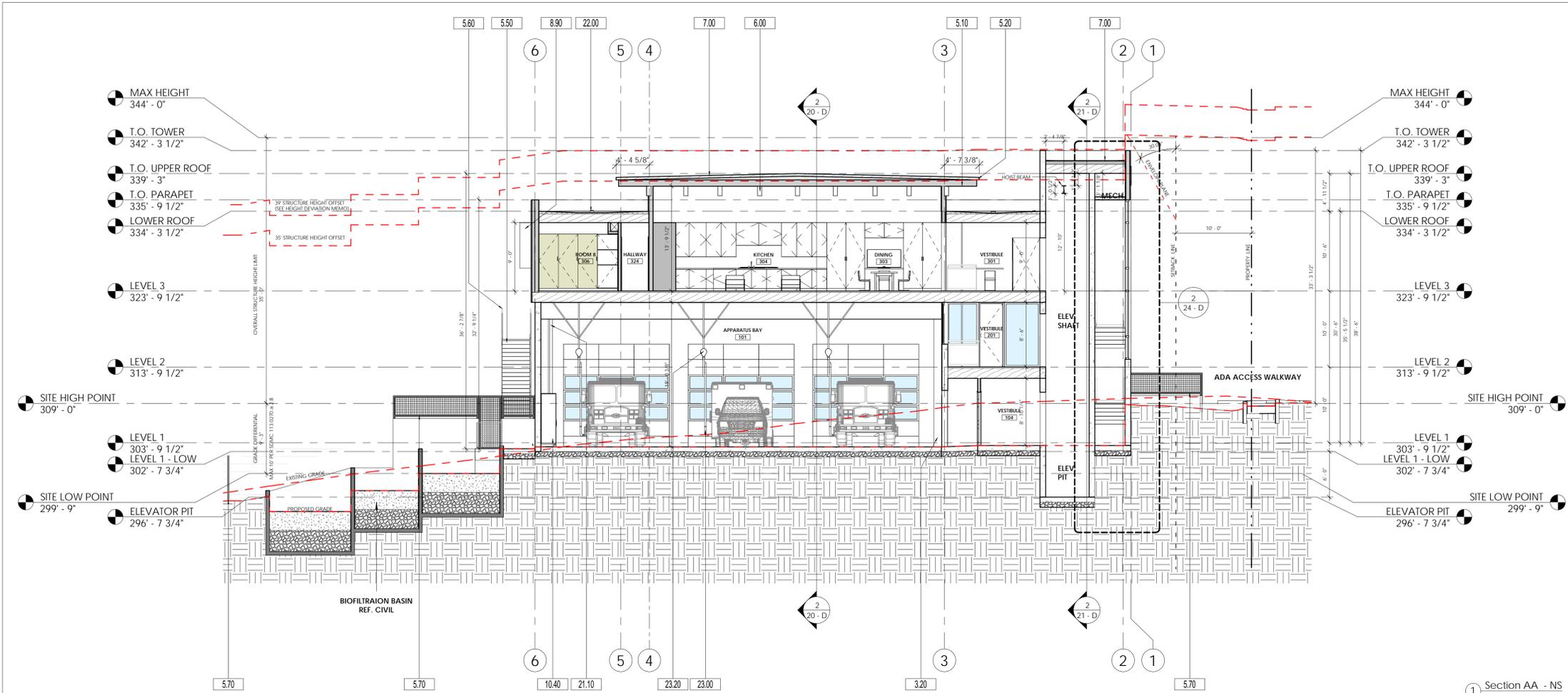
**GENERAL NOTES**

- GRIDLINES ARE MEASURED TO THE CENTER OF STRUCTURE U.N.O
- INTERIOR DIMENSIONS ARE MEASURED TO FACE OF FINISH U.N.O
- DIMENSIONS SHOWN ARE TYPICAL OF THIS SHEET ONLY U.N.O
- KEYNOTES ON THESE SHEETS ARE AN ACCUMULATION OF ITEMS FOUND ON PLANS, ELEVATIONS, SECTIONS. NOT ALL ITEMS ARE FOUND ON EACH SHEET.
- ALL ROOFING TO BE CLASS 'A' FIRE RATED.
- THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO LIGHTING ORDINANCE.
- ROOF VENTS, DORMER VENTS, GABLE VENTS, CRAWLSPACE VENTS OR OTHER SIMILAR OPENINGS SHALL BE COVERED WITH 1/4" NON-COMBUSTIBLE CORROSION RESISTANT METAL MESH OR OTHER APPROVED MATERIAL THAT OFFERS EQUIVALENT PROTECTION
- THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO: SAN DIEGO FIRE RESCUE DEPARTMENT - FIRE STATIONS AND FACILITIES DESIGN AND CONSTRUCTION STANDARDS

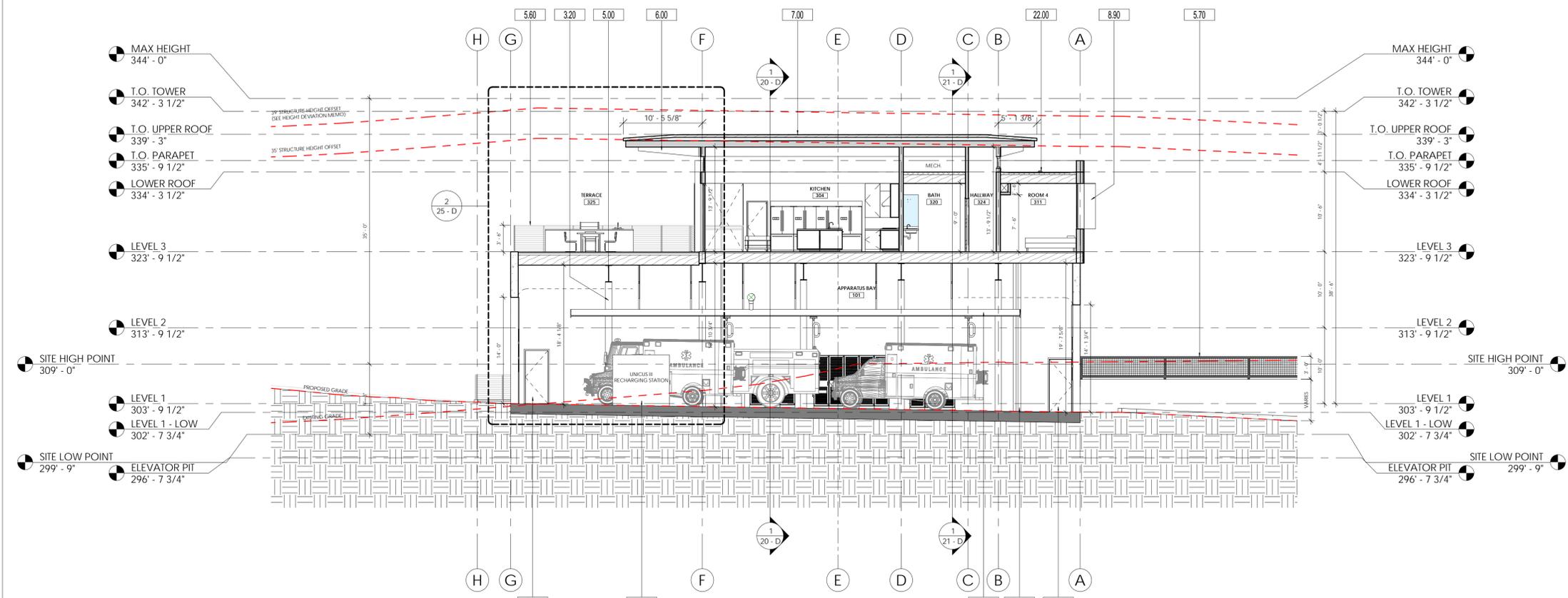
- KEYNOTES**
- 3.00 TILT UP CONCRETE WALL - ARCHITECTURAL FINISH W/ INTEGRAL COLOR
  - 3.10 CONCRETE RETAINING WALL
  - 5.20 ALUMINUM BREAK METAL PANEL - KYNAR COATING
  - 5.40 SIGNAGE - ALUMINUM
  - 5.41 SIGNAGE - ALUMINUM (PAINTED RED)
  - 5.50 METAL STAIRS PAINTED
  - 5.70 TUBE STEEL FENCE w/ 3" WIRE MESH
  - 6.00 WOOD BEAMS PER STRUCTURAL
  - 7.00 PVC MEMBRANE ROOF
  - 8.20 ALUMINUM SLIDING DOOR SYSTEM
  - 8.31 METAL DOORS
  - 8.40 ALUMINUM WINDOW SYSTEM - OPERABLE
  - 8.50 ALUMINUM WINDOW SYSTEM - FIXED
  - 8.90 METAL SHADING DEVICE - ALUMINUM
  - 9.00 7/8" THREE COAT CEMENT PLASTER - SMOOTH ACRYLIC FINISH
  - 23.10 EXHAUST EXTRACTION SYSTEM VENT

<p><b>SAFDIE RABINES ARCHITECTS</b>  <small>925 COIT STOCKTON DRIVE                  SAN DIEGO, CA 92103                  619.291.8153                  srarch@safdie.com</small></p>		<p><b>EXTERIOR ELEVATIONS</b></p>		<p><b>19 - D</b></p>
<p><b>BRIDGING DOCUMENTS FOR</b></p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>				
<p>SPEC. NO.</p>		<p>CITY OF SAN DIEGO, CALIFORNIA                  PUBLIC WORKS DEPARTMENT                  SHEET 19 OF 33 SHEETS</p>		<p>WBS S-13021</p>
<p>APPROVED:                  FOR CITY ENGINEER _____ DATE _____</p>		<p>SUBMITTED BY:                  JASON GRANI                  SENIOR ENGINEER</p>		<p>DATE STARTED _____                  DATE COMPLETED _____</p>
<p>PRINT NAME _____ RCE# _____</p>		<p>CHECKED BY:                  JASIAH NEFF                  PROJECT MANAGER</p>		<p>254-1707                  CCS27 COORDINATE                  6274-1897                  CCS83 COORDINATE</p>
<p>DESCRIPTION</p>		<p>BY</p>	<p>APPROVED</p>	<p>DATE</p>
<p>ORIGINAL</p>	<p>XXXX</p>	<p>_____</p>	<p>3.3.2017</p>	<p>_____</p>
<p>CONTRACTOR</p>		<p>DATE STARTED</p>		<p>40304 - 19 - D</p>
<p>INSPECTOR</p>		<p>DATE COMPLETED</p>		

SAN DIEGO FIRE STATION 50



1 Section AA - NS  
1/8" = 1'-0"



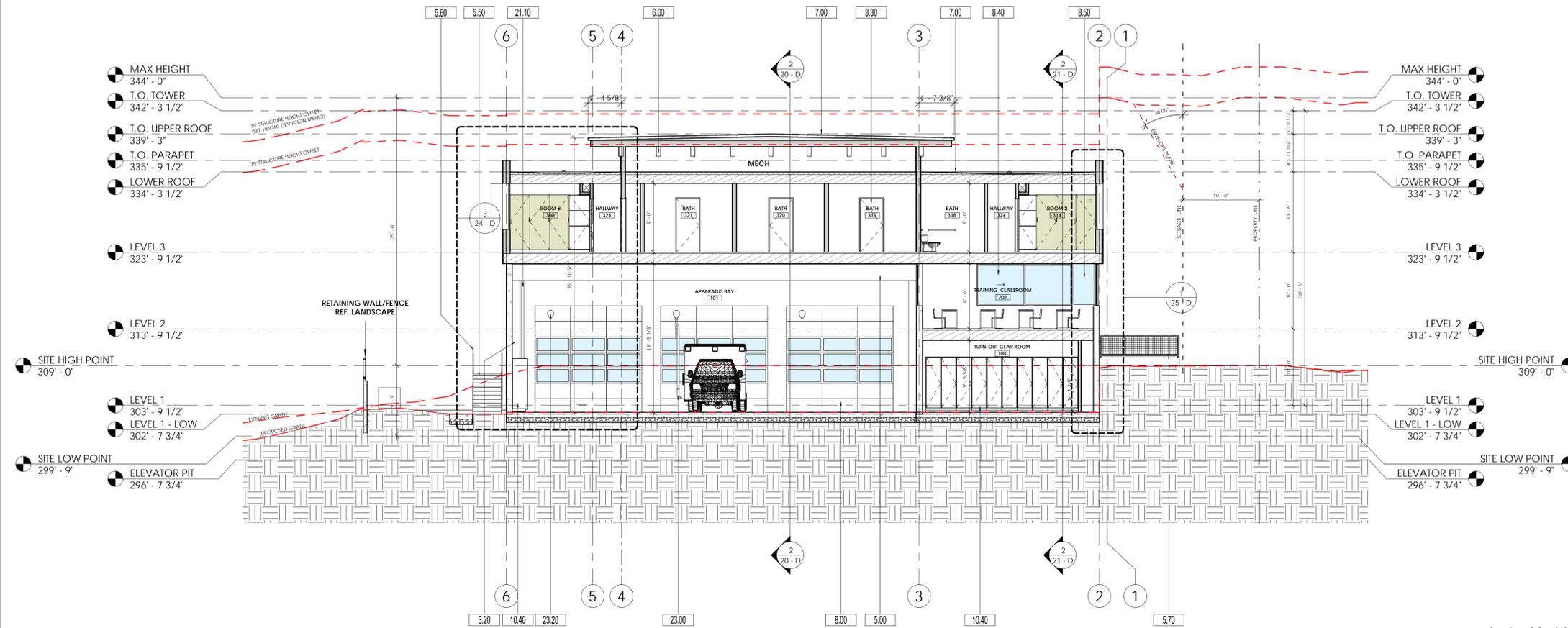
2 Section BB - EW  
1/8" = 1'-0"

**GENERAL NOTES**

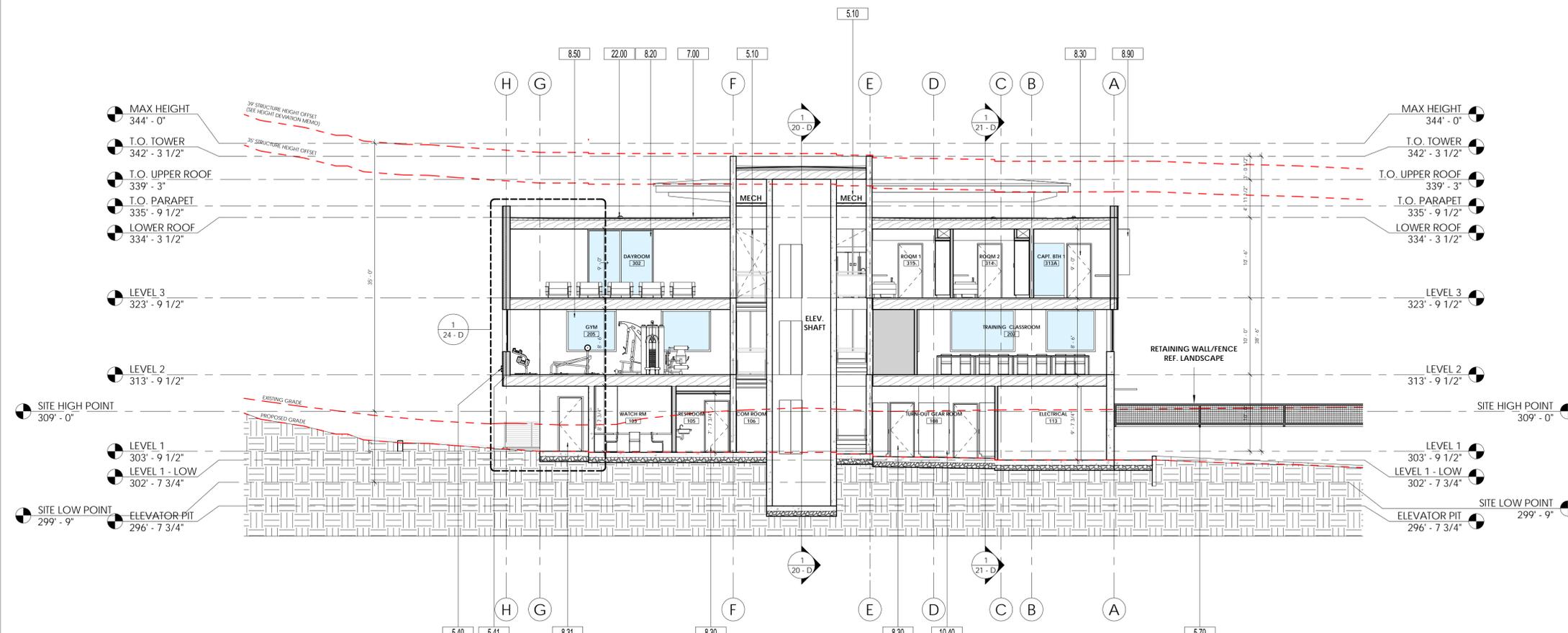
- GRIDLINES ARE MEASURED TO THE CENTER OF STRUCTURE U.N.O
- INTERIOR DIMENSIONS ARE MEASURED TO FACE OF FINISH U.N.O
- DIMENSIONS SHOWN ARE TYPICAL OF THIS SHEET ONLY U.N.O
- KEYNOTES ON THESE SHEETS ARE AN ACCUMULATION OF ITEMS FOUND ON PLANS, ELEVATIONS, SECTIONS. NOT ALL ITEMS ARE FOUND ON EACH SHEET.
- ALL ROOFING TO BE CLASS 'A' FIRE RATED.
- THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO LIGHTING ORDINANCE.
- ROOF VENTS, DORMER VENTS, GABLE VENTS, CRAWLSPACE VENTS OR OTHER SIMILAR OPENINGS SHALL BE COVERED WITH 1/4" NON-COMBUSTIBLE CORROSION RESISTANT METAL MESH OR OTHER APPROVED MATERIAL THAT OFFERS EQUIVALENT PROTECTION
- THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO: SAN DIEGO FIRE RESCUE DEPARTMENT - FIRE STATIONS AND FACILITIES DESIGN AND CONSTRUCTION STANDARDS

- KEYNOTES**
- 3.20 PILASTER
  - 5.00 STRUCTURAL STEEL
  - 5.10 METAL FIRE POLE
  - 5.20 ALUMINUM BREAK METAL PANEL - KYNAR COATING
  - 5.50 METAL STAIRS PAINTED
  - 5.60 STAINLESS STEEL CABLE RAILING
  - 5.70 TUBE STEEL FENCE w/ 3" WIRE MESH
  - 6.00 WOOD BEAMS PER STRUCTURAL
  - 7.00 PVC MEMBRANE ROOF
  - 8.31 METAL DOORS
  - 8.90 METAL SHADING DEVICE - ALUMINUM
  - 10.40 METAL LOCKERS
  - 11.00 UNICUS III COMPRESSOR
  - 21.10 FIRE SUPPRESSION STANDPIPE
  - 22.00 ROOF DRAIN
  - 23.00 EXHAUST EXTRACTION SYSTEM
  - 23.20 EXHAUST EXTRACTION DUCTING

SAFDIE RABINES ARCHITECTS <small>925 FORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.6153 srarch@safdie.com</small>	<b>SITE SECTIONS</b>		<b>20 - D</b>
	<b>BRIDGING DOCUMENTS FOR</b> <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.		
SCALE 1/8" = 1' - 0"			
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 20 OF 33 SHEETS		WBS S-13021
APPROVED FOR CITY ENGINEER	DATE	SUBMITTED BY JASON GRANI SENIOR ENGINEER	
PRINT NAME	RCE#	CHECKED BY JASIAH NEFF PROJECT MANAGER	
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	XXXX		3.3.2017
CONTRACTOR		DATE STARTED	40304 - 20 - D
INSPECTOR		DATE COMPLETED	



1 Section CC - NS  
1/8" = 1'-0"

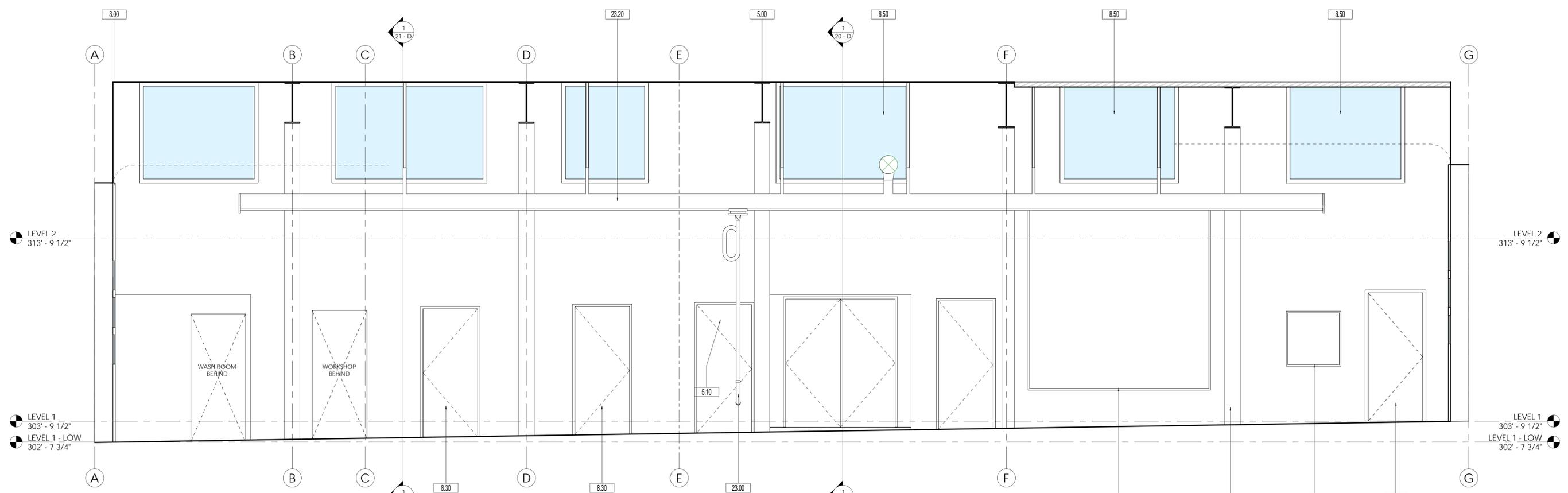


2 Section DD - EW  
1/8" = 1'-0"

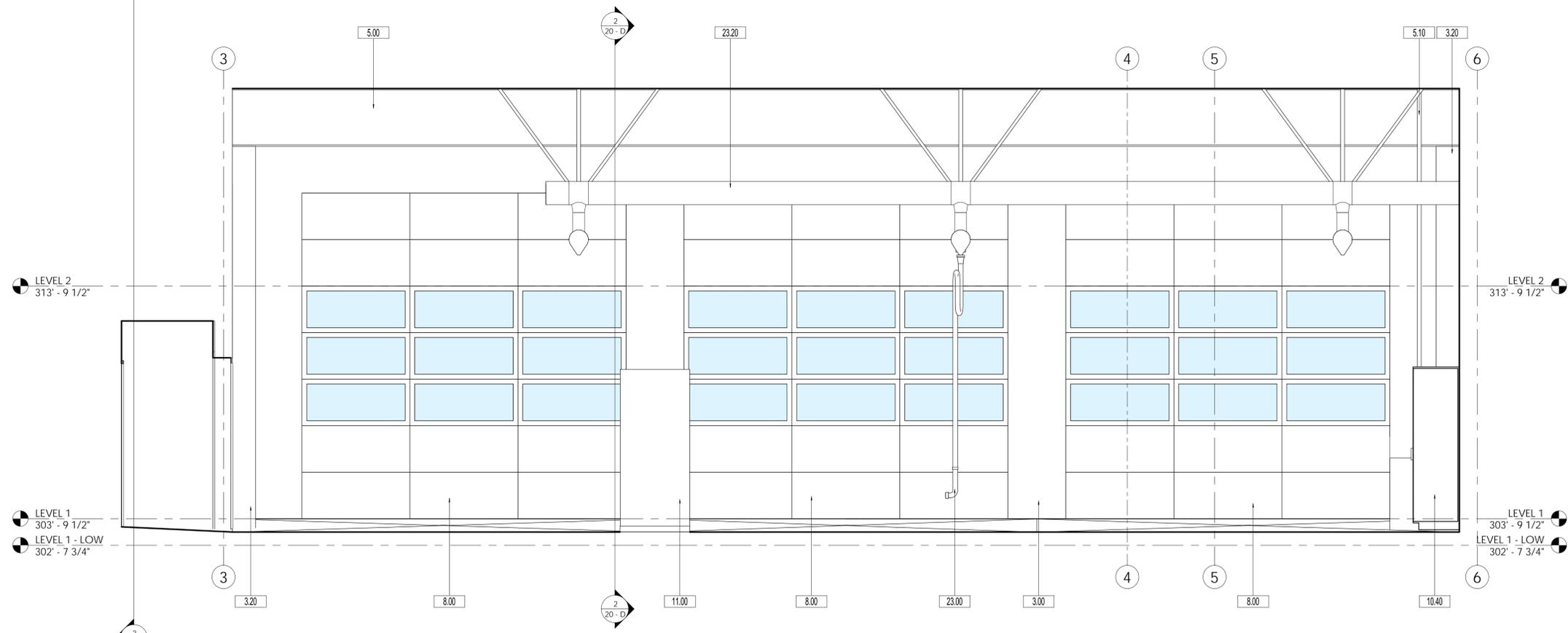
- GENERAL NOTES
1. GRIDLINES ARE MEASURED TO THE CENTER OF STRUCTURE U.N.O
  2. INTERIOR DIMENSIONS ARE MEASURED TO FACE OF FINISH U.N.O
  3. DIMENSIONS SHOWN ARE TYPICAL OF THIS SHEET ONLY U.N.O
  4. KEYNOTES ON THESE SHEETS ARE AN ACCUMULATION OF ITEMS FOUND ON PLANS, ELEVATIONS, SECTIONS. NOT ALL ITEMS ARE FOUND ON EACH SHEET.
  5. ALL ROOFING TO BE CLASS 'A' FIRE RATED.
  6. THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO LIGHTING ORDINANCE.
  7. ROOF VENTS, DORMER VENTS, GABLE VENTS, CRAWLSPACE VENTS OR OTHER SIMILAR OPENINGS SHALL BE COVERED WITH 1/4" NON-COMBUSTIBLE CORROSION RESISTANT METAL MESH OR OTHER APPROVED MATERIAL THAT OFFERS EQUIVALENT PROTECTION
  8. THIS PROJECT SHALL COMPLY WITH THE CITY OF SAN DIEGO: SAN DIEGO FIRE RESCUE DEPARTMENT - FIRE STATIONS AND FACILITIES DESIGN AND CONSTRUCTION STANDARDS

- KEYNOTES
- 3.20 PILASTER
  - 5.00 STRUCTURAL STEEL
  - 5.10 METAL FIRE POLE
  - 5.40 SIGNAGE - ALUMINUM
  - 5.41 SIGNAGE - ALUMINUM (PAINTED RED)
  - 5.50 METAL STAIRS PAINTED
  - 5.60 STAINLESS STEEL CABLE RAILING
  - 5.70 TUBE STEEL FENCE w/ 3" WIRE MESH
  - 6.00 WOOD BEAMS PER STRUCTURAL
  - 7.00 PVC MEMBRANE ROOF
  - 8.00 ROLL UP GARAGE DOORS - PAINTED RED
  - 8.20 ALUMINUM SLIDING DOOR SYSTEM
  - 8.30 SOLID WOOD CORE DOORS
  - 8.31 METAL DOORS
  - 8.40 ALUMINUM WINDOW SYSTEM - OPERABLE
  - 8.50 ALUMINUM WINDOW SYSTEM - FIXED
  - 8.90 METAL SHADING DEVICE - ALUMINUM
  - 10.40 METAL LOCKERS
  - 21.10 FIRE SUPPRESSION STANDPIPE
  - 22.00 ROOF DRAIN
  - 23.00 EXHAUST EXTRACTION SYSTEM
  - 23.20 EXHAUST EXTRACTION DUCTING

<p>SAFDIE RABINES ARCHITECTS 925 FORT STOCKTON DRIVE SAN DIEGO, CA 92103 (619) 291-8153 srarch@safdierabines.com</p>		<p><b>SITE SECTIONS</b></p>		<p>21 - D</p>
<p><b>BRIDGING DOCUMENTS FOR</b></p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>				
<p>SPEC. NO.</p>		<p>CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 21 OF 33 SHEETS</p>		<p>WBS S-13021</p>
<p>APPROVED FOR CITY ENGINEER _____ DATE _____</p> <p>PRINT NAME _____ RCER _____</p>		<p>DATE STARTED _____ DATE COMPLETED _____</p>		<p>SUBMITTED BY: JASON GRANI SENIOR ENGINEER</p> <p>CHECKED BY: JASIAH NEFF PROJECT MANAGER</p>
<p>DESCRIPTION</p>	<p>BY</p>	<p>APPROVED</p>	<p>DATE</p>	<p>FILMED</p>
<p>ORIGINAL</p>	<p>XXXX</p>		<p>3.3.2017</p>	
<p>6274-1897</p>				<p>CCS27 COORDINATE</p>
<p>CONTRACTOR</p>				<p>40304 - 21 - D</p>
<p>INSPECTOR</p>				



1 APPARATUS BAY ELEVATION - A  
3/8" = 1'-0"

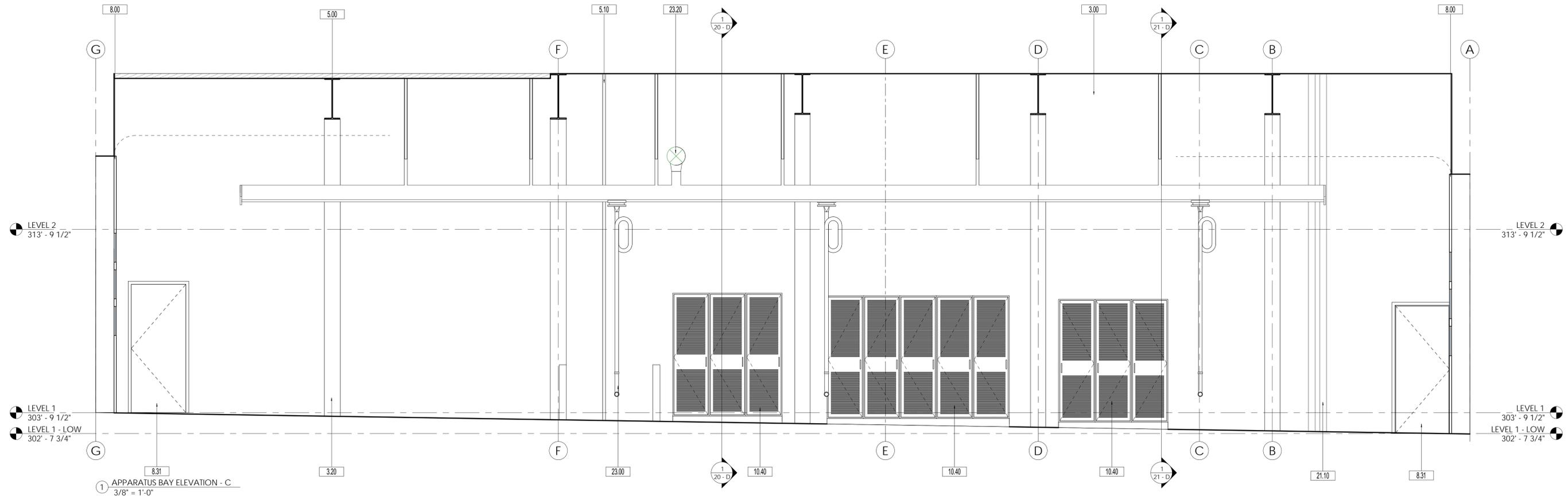


2 APPARATUS BAY ELEVATION - B  
3/8" = 1'-0"

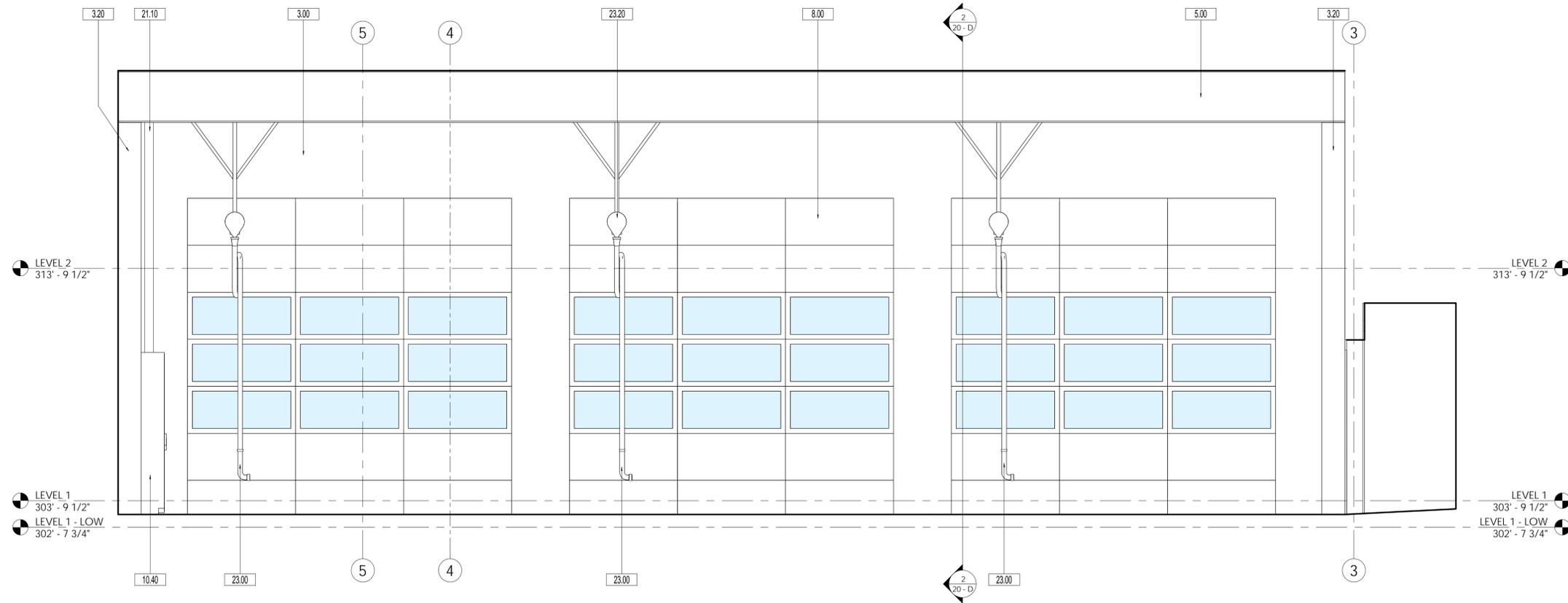
**KEYNOTES**

- 3.00 TILT UP CONCRETE WALL - ARCHITECTURAL FINISH W/ INTEGRAL COLOR
- 3.20 PILASTER
- 5.00 STRUCTURAL STEEL
- 5.10 METAL FIRE POLE
- 8.00 ROLL UP GARAGE DOORS - PAINTED RED
- 8.30 SOLID WOOD CORE DOORS
- 8.31 METAL DOORS
- 8.50 ALUMINUM WINDOW SYSTEM - FIXED
- 10.10 WHITE BOARD
- 10.20 DISTRICT MAP DISPLAY
- 10.40 METAL LOCKERS
- 11.00 UNICUS III COMPRESSOR
- 23.00 EXHAUST EXTRACTION SYSTEM
- 23.20 EXHAUST EXTRACTION DUCTING

<p><b>SAFDIE RABINES ARCHITECTS</b> 925 COIT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.6153 rsarch@safdie.com</p>	<p><b>INTERIOR ELEVATIONS - APPARATUS BAY</b></p> <p><b>BRIDGING DOCUMENTS FOR</b></p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>	<p><b>22 - D</b></p>																				
<p>SCALE 3/8" = 1' - 0"</p>																						
<p>SPEC. NO.</p>	<p>CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 22 OF 33 SHEETS</p>	<p>WBS S-13021</p>																				
<p>APPROVED FOR CITY ENGINEER _____ DATE _____</p> <p>PRINT NAME _____ RCE# _____</p>		<p>SUBMITTED BY: JASON GRANI SENIOR ENGINEER</p> <p>CHECKED BY: JASIAH NEFF PROJECT MANAGER</p>																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DESCRIPTION</th> <th>BY</th> <th>APPROVED</th> <th>DATE</th> <th>FILMED</th> </tr> </thead> <tbody> <tr> <td>ORIGINAL</td> <td>XXXX</td> <td></td> <td>3.3.2017</td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DESCRIPTION	BY	APPROVED	DATE	FILMED	ORIGINAL	XXXX		3.3.2017												<p>6274-1897 CCS27 COORDINATE</p> <p>6274-1897 CCS83 COORDINATE</p>	
DESCRIPTION	BY	APPROVED	DATE	FILMED																		
ORIGINAL	XXXX		3.3.2017																			
<p>CONTRACTOR _____ DATE STARTED _____</p> <p>INSPECTOR _____ DATE COMPLETED _____</p>		<p>40304 - 22 - D</p>																				



1 APPARATUS BAY ELEVATION - C  
3/8" = 1'-0"



2 APPARATUS BAY ELEVATION - D  
3/8" = 1'-0"

**KEYNOTES**

- 3.00 TILT UP CONCRETE WALL - ARCHITECTURAL FINISH W/ INTEGRAL COLOR
- 3.20 PILASTER
- 5.00 STRUCTURAL STEEL
- 5.10 METAL FIRE POLE
- 8.00 ROLL UP GARAGE DOORS - PAINTED RED
- 8.31 METAL DOORS
- 10.40 METAL LOCKERS
- 21.10 FIRE SUPPRESSION STANDPIPE
- 23.00 EXHAUST EXTRACTION SYSTEM
- 23.20 EXHAUST EXTRACTION DUCTING

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**INTERIOR ELEVATIONS - APPARATUS BAY** 23 - D

**BRIDGING DOCUMENTS FOR**

**FIRE STATION 50**

SE CORNER OF NOBEL DR. AND SHORELINE DR.

SAFDIE RABINES ARCHITECTS  
925 FORT STOCKTON DRIVE  
SAN DIEGO, CA 92103  
619.291.6153  
sarch@safdie.com

SCALE  
3/8" = 1' - 0"

SPEC. NO. **CITY OF SAN DIEGO, CALIFORNIA**  
PUBLIC WORKS DEPARTMENT  
SHEET 23 OF 33 SHEETS

WBS S-13021

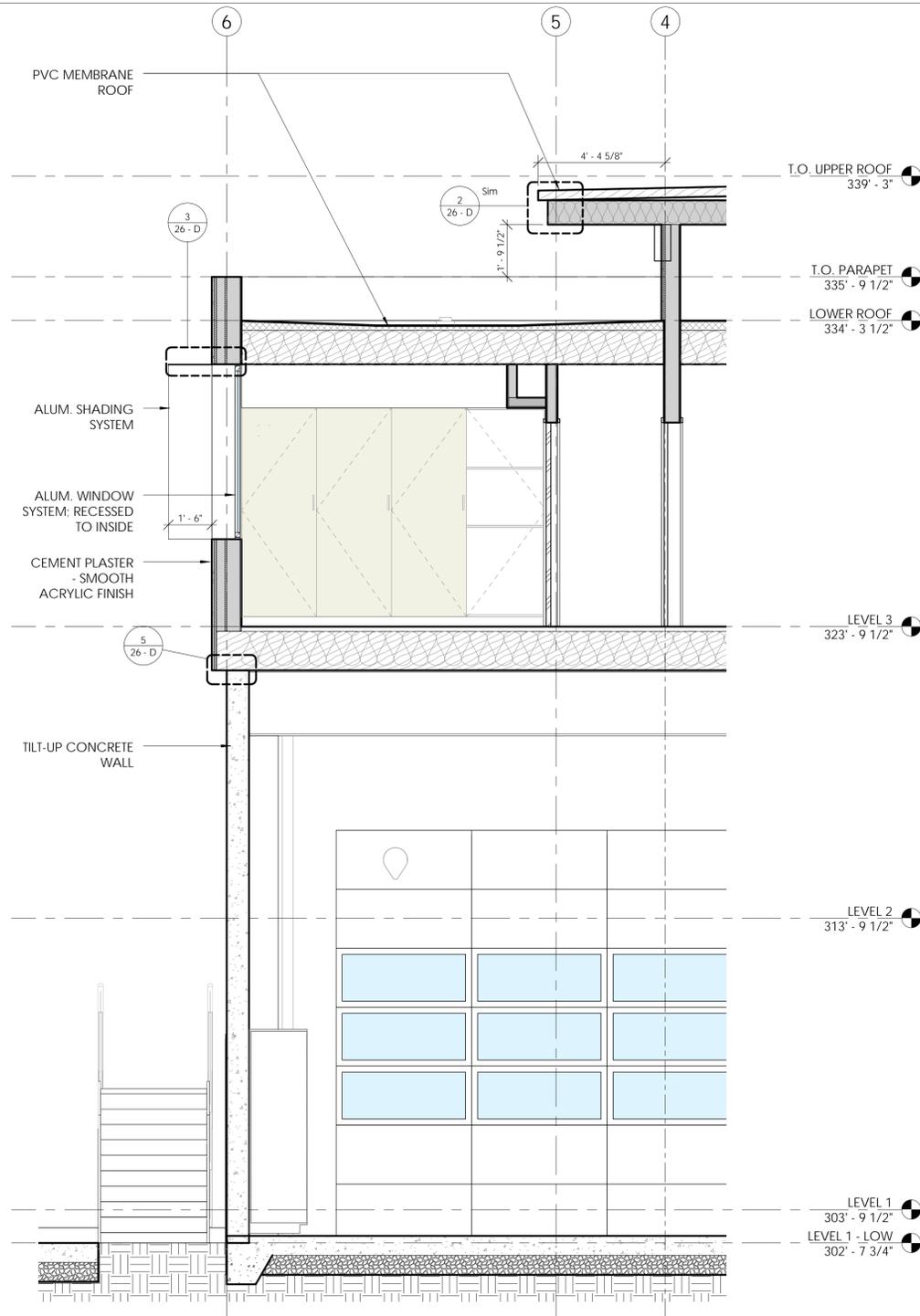
APPROVED: \_\_\_\_\_ DATE \_\_\_\_\_  
FOR CITY ENGINEER \_\_\_\_\_ SENIOR ENGINEER

PRINT NAME \_\_\_\_\_ RCEP \_\_\_\_\_  
CHECKED BY: JASIAH NEFF PROJECT MANAGER

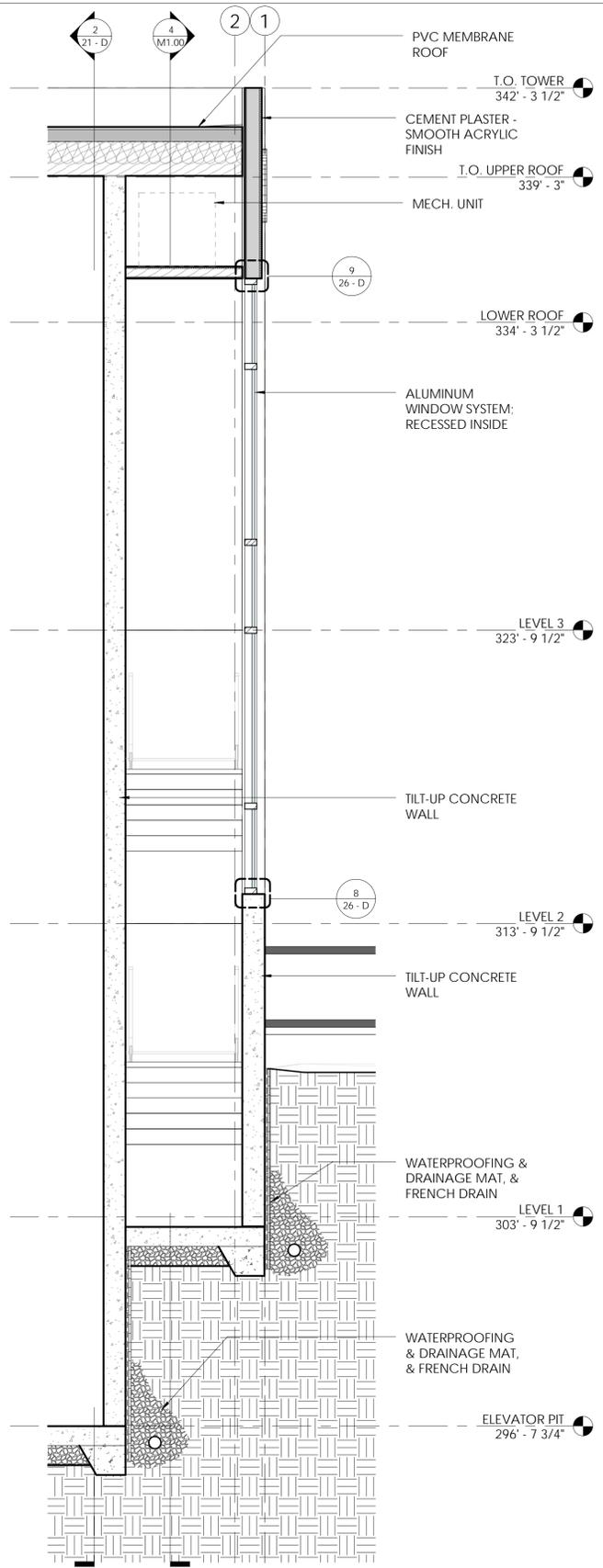
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXXX		3.3.2017	

CONTRACTOR \_\_\_\_\_ DATE STARTED \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE COMPLETED \_\_\_\_\_

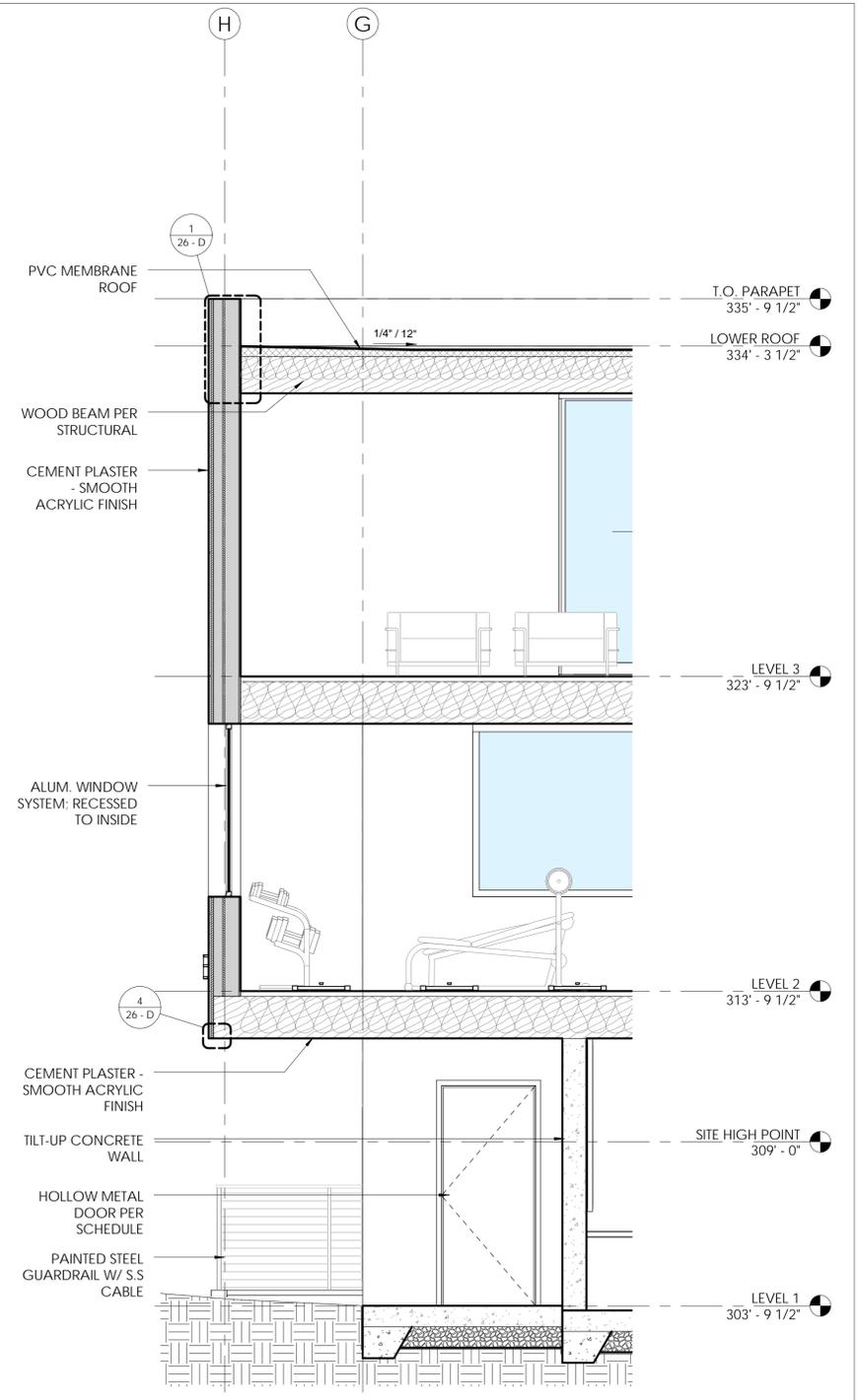
6274-1897  
CCS27 COORDINATE  
6274-1897  
CCS83 COORDINATE  
40304 - 23 - D



3 ENLARGED WALL SECTION 3  
3/8" = 1'-0"

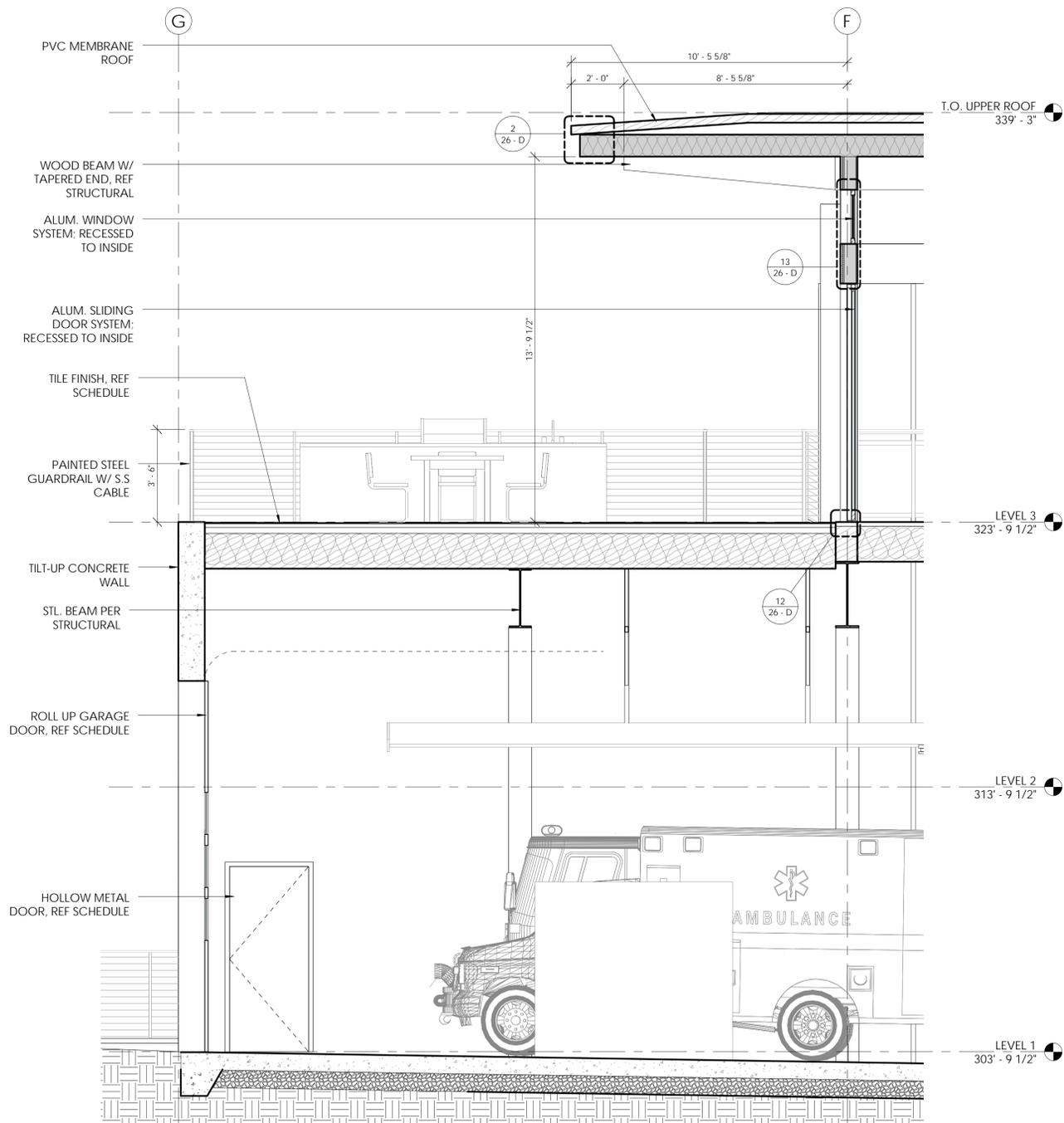


2 ENLARGED WALL SECTION 2  
3/8" = 1'-0"

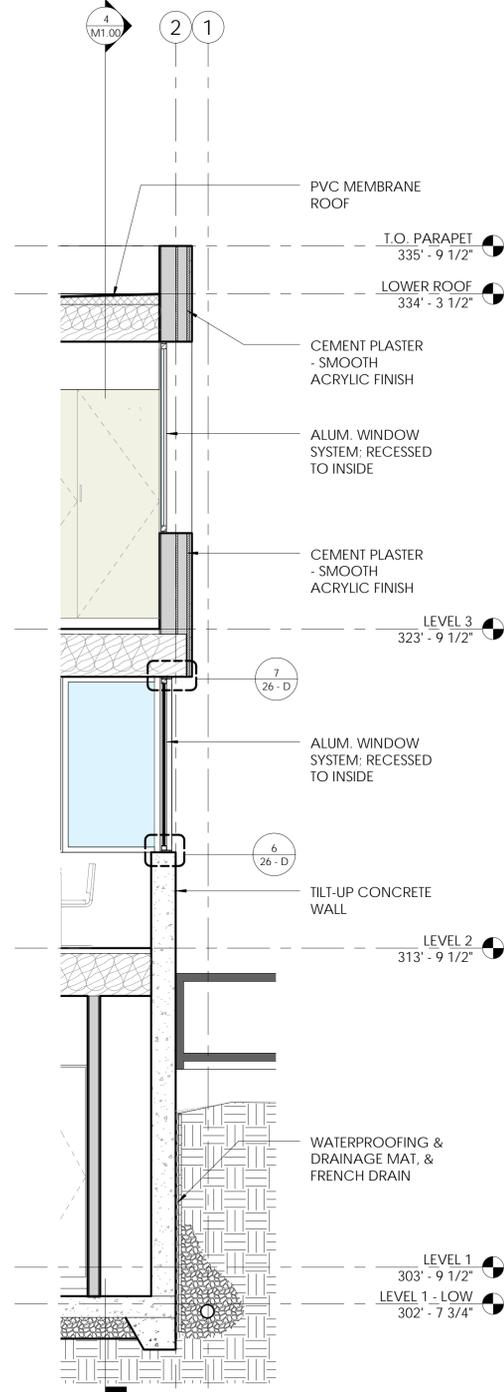


1 ENLARGED WALL SECTION 1  
3/8" = 1'-0"

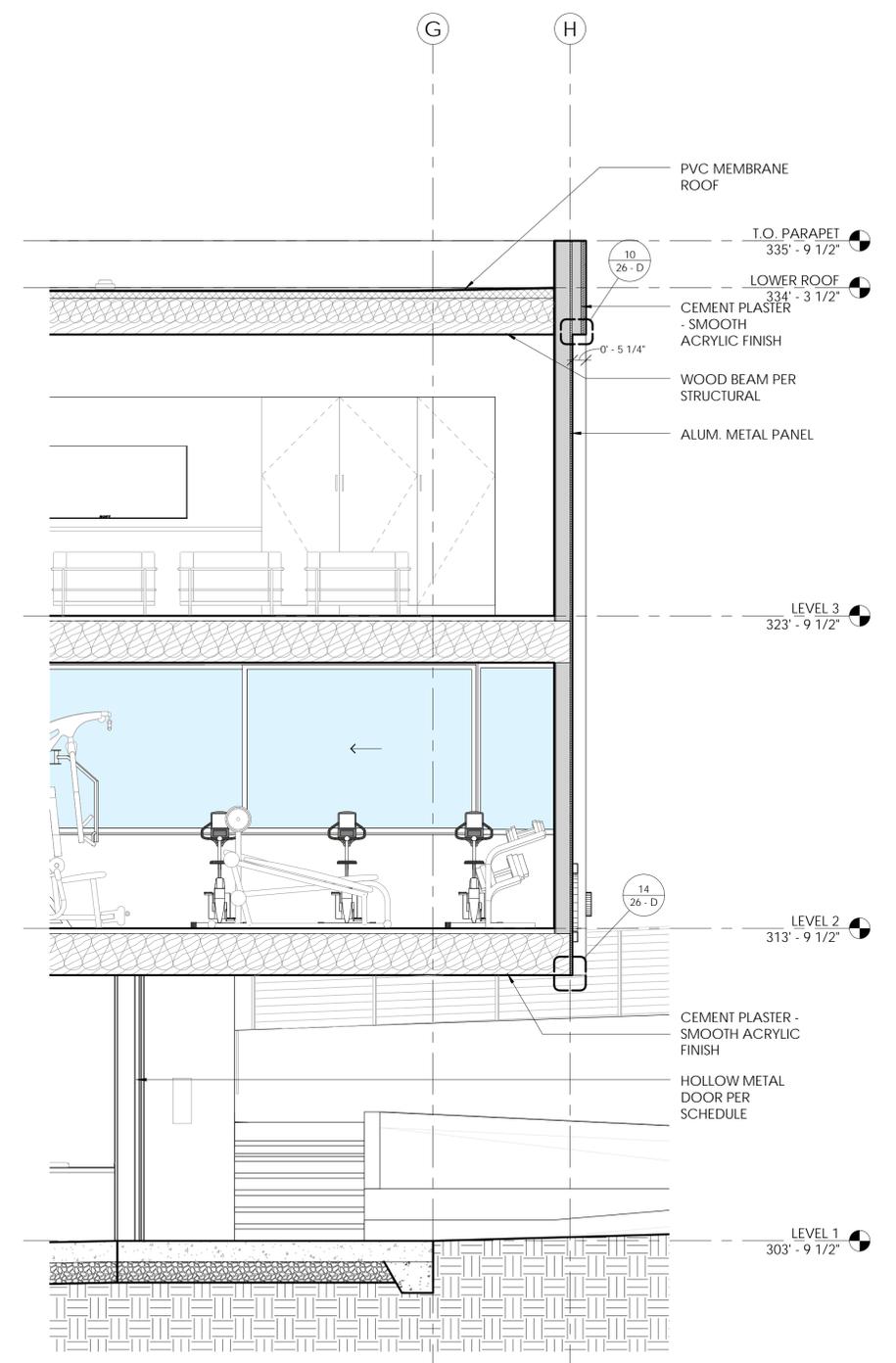
SAFDIE RABINES ARCHITECTS 925 CORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.8153 rsarch@safdie.com		<b>WALL SECTIONS</b>		24 - D
<b>BRIDGING DOCUMENTS FOR FIRE STATION 50</b>				
SE CORNER OF NOBEL DR. AND SHORELINE DR.				
SPEC. NO.		CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 24 OF 33 SHEETS		WBS S-13021
APPROVED: FOR CITY ENGINEER		DATE		SUBMITTED BY: JASON GRANI SENIOR ENGINEER
PRINT NAME		RCE#		CHECKED BY: JASIAH NEFF PROJECT MANAGER
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	XXXX		3.3.2017	
				254-1707 CCS27 COORDINATE
				6274-1897 CCS83 COORDINATE
CONTRACTOR		DATE STARTED		40304 - 24 - D
INSPECTOR		DATE COMPLETED		



2 ENLARGED WALL SECTION 6  
3/8" = 1'-0"

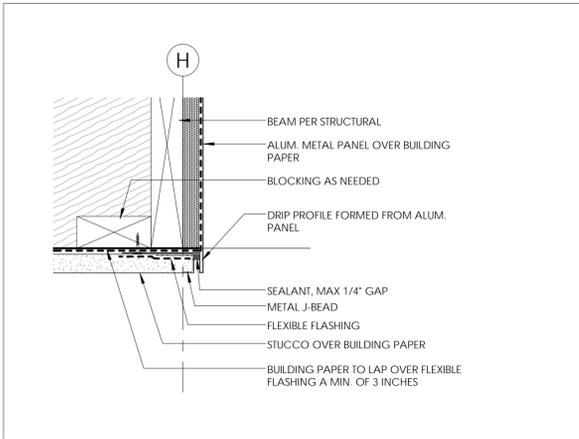


1 ENLARGED WALL SECTION 5  
3/8" = 1'-0"

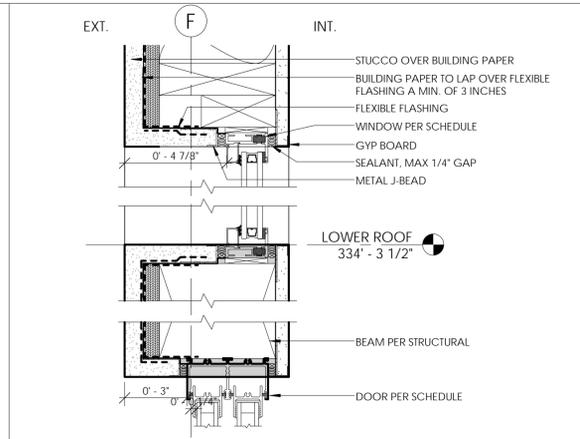


3 ENLARGED WALL SECTION 4  
3/8" = 1'-0"

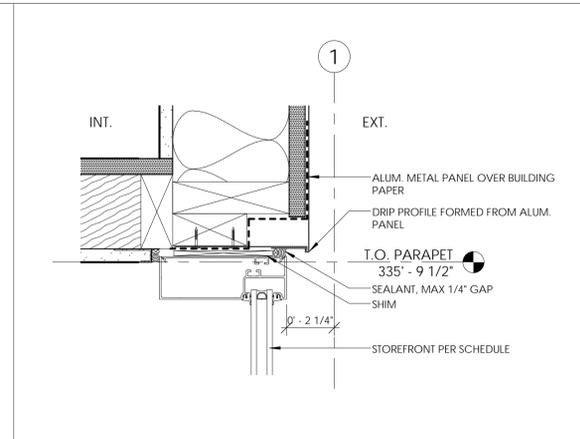
SAFDIE RABINES ARCHITECTS 925 FORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.297.8153 srarch@safdie-rabines.com	<b>WALL SECTIONS</b>		25 - D
	BRIDGING DOCUMENTS FOR <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.		
SCALE 3/8" = 1' - 0"	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 25 OF 33 SHEETS		
SPEC. NO.	WBS S-13021		SUBMITTED BY JASON GRANI SENIOR ENGINEER
APPROVED FOR CITY ENGINEER	DATE	CHECKED BY JASIAH NEFF PROJECT MANAGER	
PRINT NAME RCE#	BY XXXX	APPROVED DATE 3.3.2017	FILMED
DESCRIPTION ORIGINAL	254-1707 CCS27 COORDINATE 6274-1897 CCS83 COORDINATE	40304 - 25 - D	
CONTRACTOR INSPECTOR	DATE STARTED DATE COMPLETED	40304 - 25 - D	



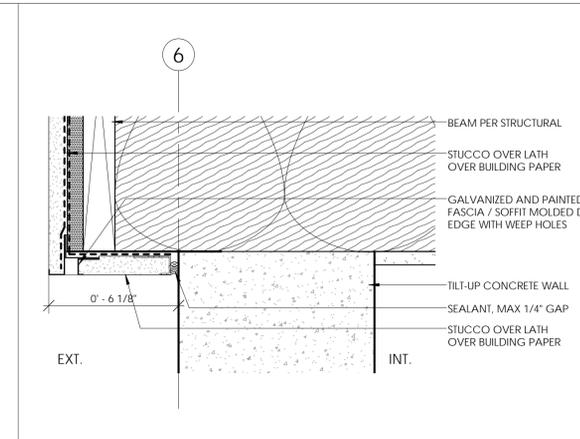
14 DETAIL - TRANSITION - METAL PANEL TO CEMENT PLASTER  
3" = 1'-0"



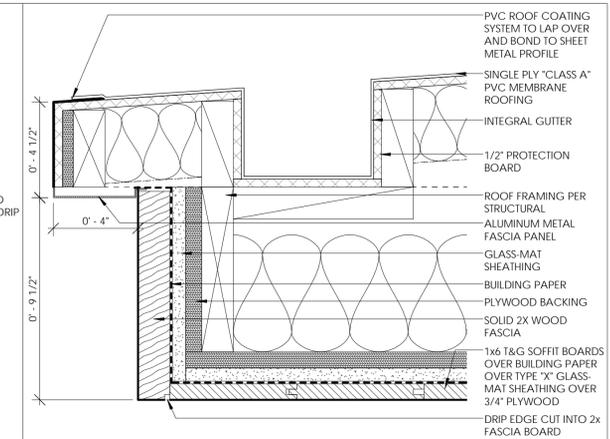
13 DETAIL - SLIDING DOOR HEAD TO CLEARSTORY WINDOW  
3" = 1'-0"



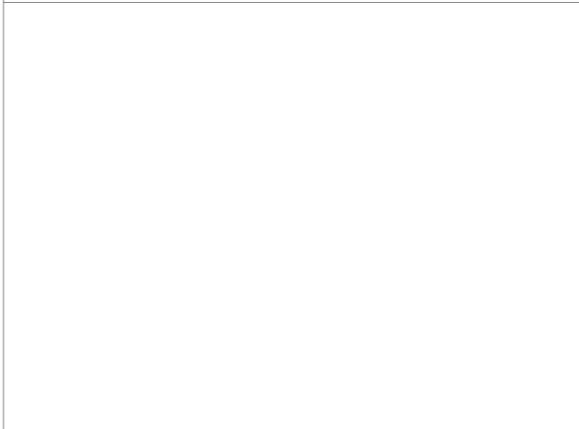
9 DETAIL - WINDOW HEAD  
3" = 1'-0"



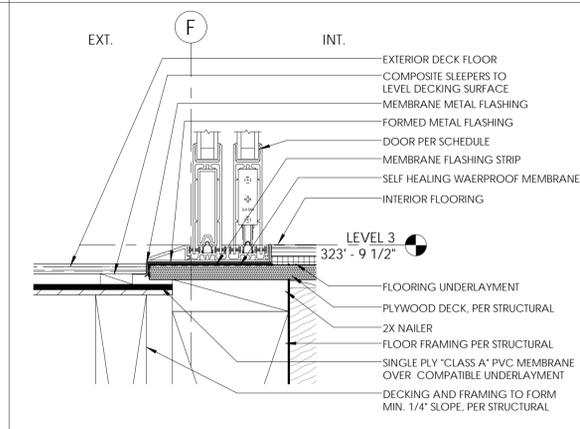
5 DETAIL - TRANSITION @ CONC. WALL TO WOOD WALL  
3" = 1'-0"



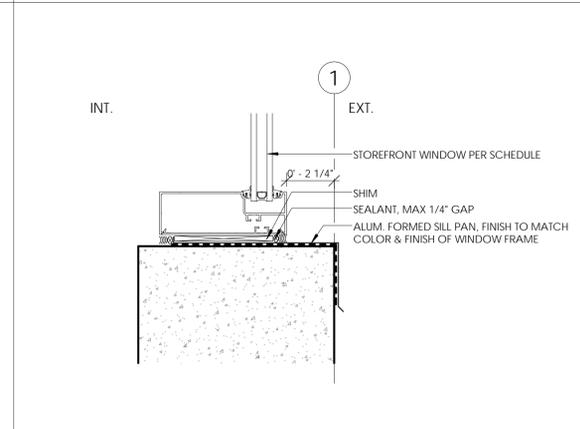
2 DETAIL - ROOF EDGE  
3" = 1'-0"



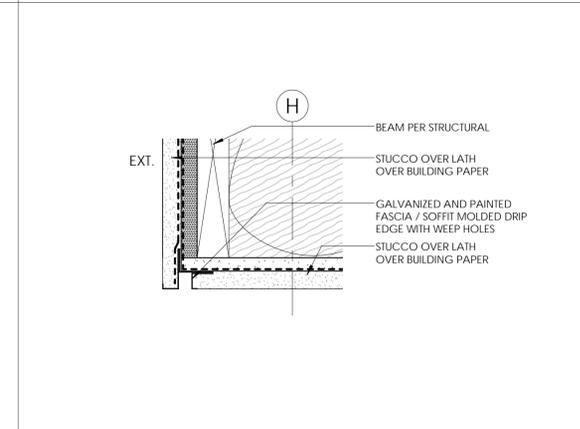
12 DETAIL - TRANSITION @ INT / EXT FLOOR  
3" = 1'-0"



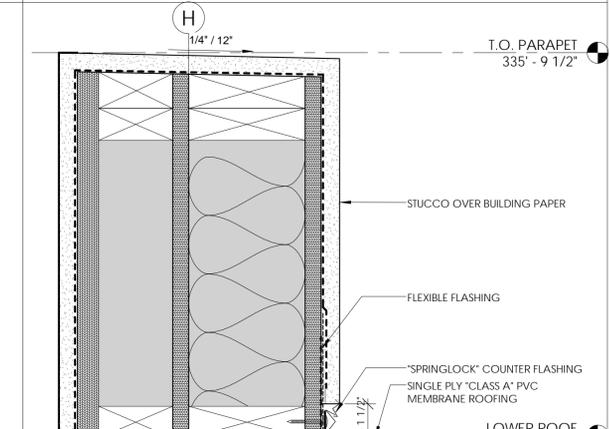
8 DETAIL - WINDOW SILL @ CONCRETE  
3" = 1'-0"



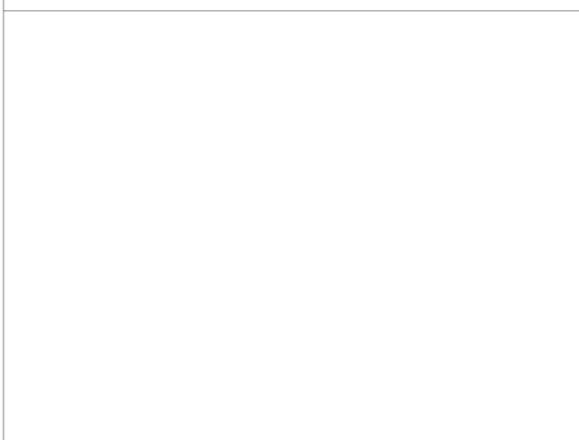
4 DETAIL - EXTERIOR SOFFIT  
3" = 1'-0"



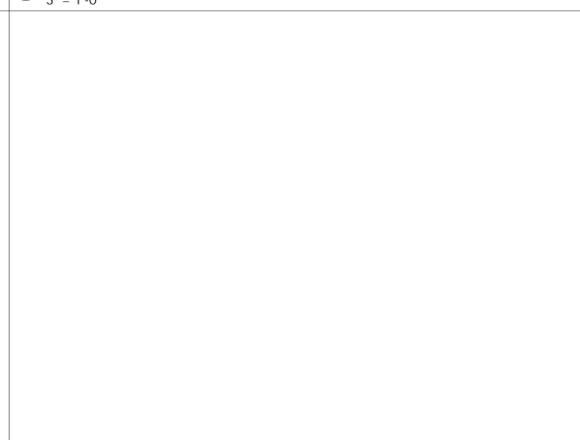
6 DETAIL - SLIDING WINDOW HEAD  
3" = 1'-0"



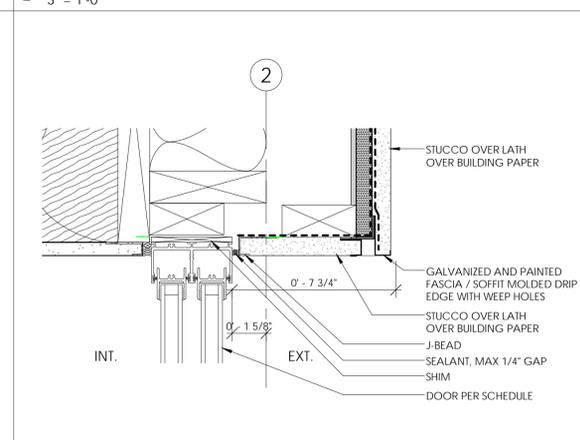
1 DETAIL - PARAPET  
3" = 1'-0"



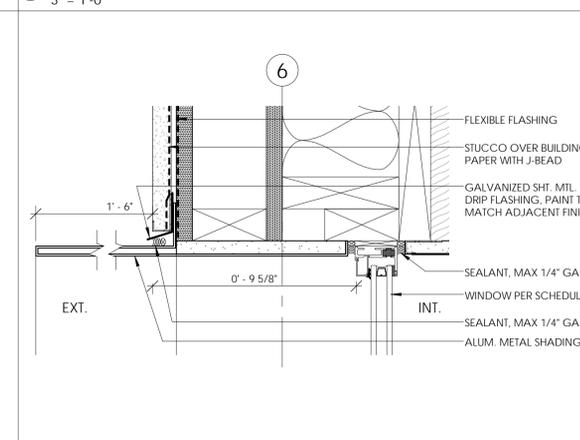
10 DETAIL - TRANSITION - CEMENT PLASTER TO METAL PANEL  
3" = 1'-0"



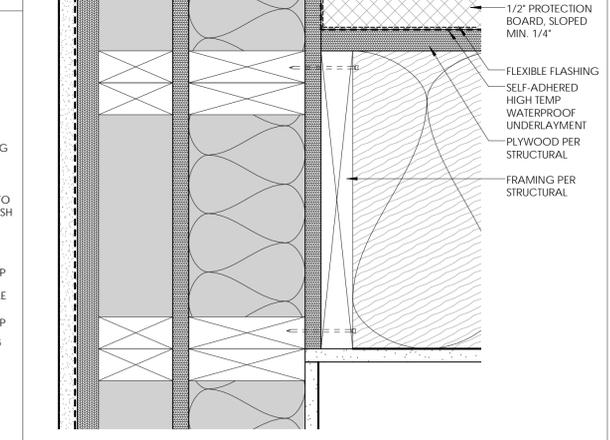
7 DETAIL - SLIDING WINDOW HEAD  
3" = 1'-0"



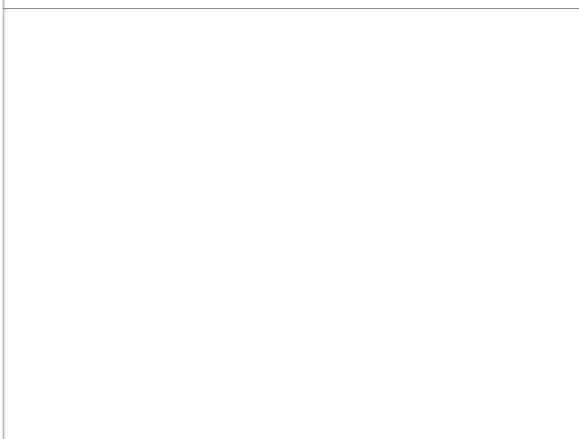
3 DETAIL - WINDOW HEAD TO PARAPET  
3" = 1'-0"



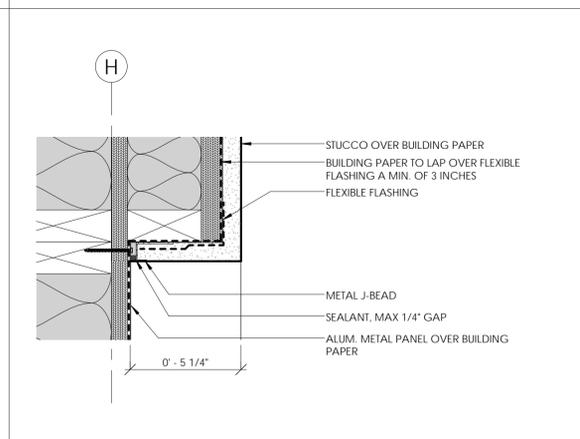
6 DETAIL - SLIDING WINDOW SILL  
3" = 1'-0"



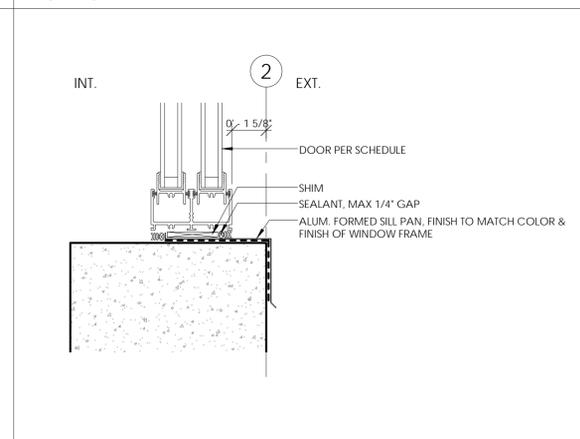
1 DETAIL - PARAPET  
3" = 1'-0"



10 DETAIL - TRANSITION - CEMENT PLASTER TO METAL PANEL  
3" = 1'-0"



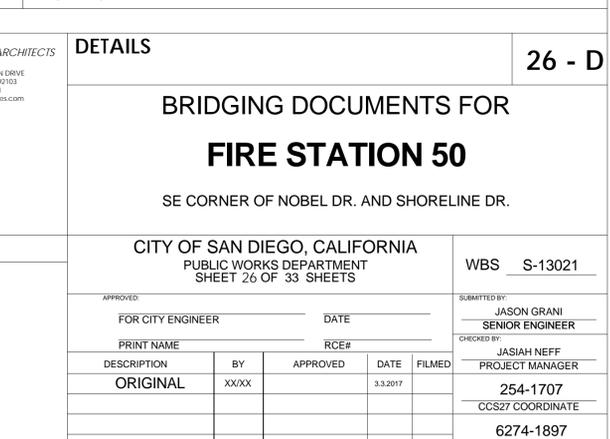
6 DETAIL - SLIDING WINDOW SILL  
3" = 1'-0"



2 DETAIL - ROOF EDGE  
3" = 1'-0"



6 DETAIL - SLIDING WINDOW SILL  
3" = 1'-0"



1 DETAIL - PARAPET  
3" = 1'-0"

<p>SAFDIE RABINES ARCHITECTS 925 CORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.6153 sarch@safdie-rabines.com</p>		<p><b>DETAILS</b></p>		<p><b>26 - D</b></p>
<p><b>BRIDGING DOCUMENTS FOR</b></p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>				
<p>SPEC. NO.</p>		<p>CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 26 OF 33 SHEETS</p>		<p>WBS S-13021</p>
<p>APPROVED:</p> <p>FOR CITY ENGINEER _____ DATE _____</p> <p>PRINT NAME _____ RCE# _____</p>		<p>DATE _____</p>		<p>SUBMITTED BY: JASON GRANI SENIOR ENGINEER</p> <p>CHECKED BY: JASIAH NEFF PROJECT MANAGER</p>
<p>DESCRIPTION</p>	<p>BY</p>	<p>APPROVED</p>	<p>DATE</p>	<p>FILMED</p>
<p>ORIGINAL</p>	<p>XXXX</p>	<p>_____</p>	<p>3.3.2017</p>	<p>_____</p>
<p>CONTRACTOR</p>		<p>DATE STARTED</p>		<p>40304 - 26 - D</p>
<p>INSPECTOR</p>		<p>DATE COMPLETED</p>		<p>_____</p>

**FINISH SCHEDULE**

LEVEL	ROOM #	NAME	WALL FINISH	CEILING FINISH	FLOOR FINISH
LEVEL 1	101	APPARATUS BAY	CONCRETE	GYPSUM BOARD	CONCRETE
LEVEL 1	102	LOBBY	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	103	WATCH RM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	104	VESTIBULE	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	105	RESTROOM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	106	COM ROOM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	107	STO	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	108	TURN-OUT GEAR ROOM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	109	WORKSHOP	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	110	STO	GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	111	WASH RM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	112	EXT. STO	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 1	113	ELECTRICAL	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CONCRETE
LEVEL 2	201	VESTIBULE	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 2	202	TRAINING CLASSROOM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 2	203	CONTROL RM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 2	204	MECH	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 2	205	GYM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	RUBBERIZED FLOOR TILE
LEVEL 3	301	VESTIBULE	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	PORCELAIN TILE
LEVEL 3	302	DAYROOM	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	303	DINING	GYPSUM BOARD	T&G WOOD	PORCELAIN TILE
LEVEL 3	304	KITCHEN	GYPSUM BOARD	T&G WOOD	PORCELAIN TILE
LEVEL 3	305	STO	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	306	ROOM 8	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	307	ROOM 7	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	308	ROOM 6	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	309	CAPT. RM 2	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	309A	CAPT. BTH 2	GYPSUM BOARD	GYPSUM BOARD	PORCELAIN TILE
LEVEL 3	310	ROOM 5	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	311	ROOM 4	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	312	ROOM 3	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	313	CAPT. RM 1	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	313A	CAPT. BTH 1	GYPSUM BOARD	GYPSUM BOARD	PORCELAIN TILE
LEVEL 3	314	ROOM 2	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	315	ROOM 1	CONCRETE & GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	316	STO	GYPSUM BOARD	T&G WOOD	CARPET TILE
LEVEL 3	317	STO	GYPSUM BOARD	T&G WOOD	CARPET TILE
LEVEL 3	318	BATH	GYPSUM BOARD	GYPSUM BOARD	PORCELAIN TILE
LEVEL 3	319	BATH	GYPSUM BOARD	GYPSUM BOARD	PORCELAIN TILE
LEVEL 3	320	BATH	GYPSUM BOARD	GYPSUM BOARD	PORCELAIN TILE
LEVEL 3	321	BATH	GYPSUM BOARD	GYPSUM BOARD	PORCELAIN TILE
LEVEL 3	322	STO	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	323	MECH	GYPSUM BOARD	GYPSUM BOARD	CARPET TILE
LEVEL 3	324	HALLWAY	GYPSUM BOARD	T&G WOOD	CARPET TILE
LEVEL 3	325	TERRACE	N/A	N/A	PORCELAIN TILE

<small>SAFIE RABINES ARCHITECTS</small> <small>925 FORT STOCKTON DRIVE</small> <small>SAN DIEGO, CA 92103</small> <small>619.291.8153</small> <small>srarch@safierabines.com</small>	<b>FINISH SCHEDULE</b>		<b>27 - D</b>	
	<b>BRIDGING DOCUMENTS FOR</b> <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.			
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 27 OF 33 SHEETS			WBS S-13021
APPROVED: FOR CITY ENGINEER _____ DATE _____	PRINT NAME _____ RCE# _____		SUBMITTED BY: JASON GRANI SENIOR ENGINEER	
DESCRIPTION <b>ORIGINAL</b>	BY XXXX	APPROVED _____	DATE 3.3.2017	CHECKED BY: JASIAH NEFF PROJECT MANAGER
CONTRACTOR INSPECTOR	DATE STARTED _____	DATE COMPLETED _____	40304 - 27 - D	

SAN DIEGO FIRE STATION 50

**DOOR SCHEDULE**

MARK	TYPE	LEVEL	Type	WIDTH	HEIGHT	MATERIAL	FINISH	NOTES
001	A	LEVEL 1 - LOW	SINGLE HOLLOW METAL - 36" x 84"	3'-0"	7'-0"	STEEL	PAINTED	
002	I	LEVEL 1 - LOW	ROLL UP GARAGE DOOR - 14' X 14' - WEST ELEV	14'-0"	14'-2"	STEEL	PAINT/POWDER COAT	GLAZED PANELS
003	I	LEVEL 1 - LOW	ROLL UP GARAGE DOOR - 14' X 14' - WEST ELEV	14'-0"	14'-2"	STEEL	PAINT/POWDER COAT	GLAZED PANELS
004	I	LEVEL 1 - LOW	ROLL UP GARAGE DOOR - 14' X 14' - WEST ELEV	14'-0"	14'-2"	STEEL	PAINT/POWDER COAT	GLAZED PANELS
005	A	LEVEL 1 - LOW	SINGLE HOLLOW METAL - 36" x 84"	3'-0"	7'-0"	STEEL	PAINTED	
006	A	LEVEL 1 - LOW	SINGLE HOLLOW METAL - 36" x 84"	3'-0"	7'-0"	STEEL	PAINTED	
007	A	LEVEL 1 - LOW	SINGLE HOLLOW METAL - 36" x 84"	3'-0"	7'-0"	STEEL	PAINTED	
009	E	LEVEL 1 - LOW	SINGLE - 36" x 80"	3'-0"	6'-8"			
OP4	-	LEVEL 1 - LOW	OPENING - 36" x 84"	0'-0"	0'-0"			
011	E	LEVEL 1	SINGLE - 36" x 84"	3'-0"	7'-0"			
012	E	LEVEL 1	SINGLE - 36" x 84"	3'-0"	7'-0"			
013	E	LEVEL 1	SINGLE - 36" x 84"	3'-0"	7'-0"			
014	F	LEVEL 1	DOUBLE - 72" x 84"	6'-0"	7'-0"			
015	E	LEVEL 1	SINGLE - 36" x 84"	3'-0"	7'-0"			
016	-	LEVEL 1	OPENING - 36" x 84"	0'-0"	0'-0"			
017	E	LEVEL 1	SINGLE - 36" x 80"	3'-0"	6'-8"			
018	E	LEVEL 1	SINGLE - 36" x 80"	3'-0"	6'-8"			
019	D	LEVEL 1	EXT SINGLE GLASS - 36" x 99"	3'-0"	8'-3"	ALUMINUM	CLEAR ANODIZED	GLAZED
020	D	LEVEL 1	EXT SINGLE RED FRAME - 36" x 99"	3'-0"	8'-3"	ALUMINUM	PAINTED	GLAZED
021	A	LEVEL 1	SINGLE HOLLOW METAL - 36" x 84"	3'-0"	7'-0"	STEEL	PAINTED	
022	I	LEVEL 1	ROLL UP GARAGE DOOR - 14' X 14'	14'-0"	14'-0"	STEEL	PAINT/POWDER COAT	GLAZED PANELS
023	I	LEVEL 1	ROLL UP GARAGE DOOR - 14' X 14'	14'-0"	14'-0"	STEEL	PAINT/POWDER COAT	GLAZED PANELS
024	I	LEVEL 1	ROLL UP GARAGE DOOR - 14' X 14'	14'-0"	14'-0"	STEEL	PAINT/POWDER COAT	GLAZED PANELS
025	A	LEVEL 1	SINGLE HOLLOW METAL - 36" x 84"	3'-0"	7'-0"	STEEL	PAINTED	
OP5	-	LEVEL 1	OPENING - 36" x 84"	0'-0"	0'-0"			
101	E	LEVEL 2	SINGLE - 36" x 84"	3'-0"	7'-0"			
102	E	LEVEL 2	SINGLE - 36" x 84"	3'-0"	7'-0"			
103	E	LEVEL 2	SINGLE - 36" x 102"	3'-0"	8'-4"			
104	-	LEVEL 2	OPENING - 36" x 84"	0'-0"	0'-0"			
105	E	LEVEL 2	SINGLE - 36" x 102"	3'-0"	8'-4"			
201	E	LEVEL 3	SINGLE - 36" x 80"	3'-0"	6'-8"			
202	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
203	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
204	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
205	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
206	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
207	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
208	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			

**DOOR SCHEDULE**

MARK	TYPE	LEVEL	Type	WIDTH	HEIGHT	MATERIAL	FINISH	NOTES
209	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
210	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
211	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
212	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
213	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
214	G	LEVEL 3	POCKET - 36" x 84"	3'-0"	7'-0"			
215	G	LEVEL 3	POCKET - 36" x 84"	3'-0"	7'-0"			
216	-	LEVEL 3	OPENING - 44" x 84"	0'-0"	0'-0"			
217	-	LEVEL 3	OPENING - 36" x 84"	0'-0"	0'-0"			
218	-	LEVEL 3	OPENING - 105" x 80"	0'-0"	0'-0"			
219	B	LEVEL 3	SLIDING - 2 PANEL	8'-7 1/2"	9'-0"	ALUMINUM	CLEAR ANODIZED	
220	B	LEVEL 3	SLIDING - 2 PANEL	8'-6 1/4"	9'-0"	ALUMINUM	CLEAR ANODIZED	
221	C	LEVEL 3	SLIDING - 4 PANEL	20'-0"	9'-0"	ALUMINUM	CLEAR ANODIZED	
222	B	LEVEL 3	SLIDING - 2 PANEL	8'-6 1/4"	9'-0"	ALUMINUM	CLEAR ANODIZED	
223	E	LEVEL 3	SINGLE - 30" x 80"	2'-6"	6'-6 1/2"			
224	D	LEVEL 3	EXT SINGLE GLASS - 36" x 108"	3'-0"	8'-10"	ALUMINUM	CLEAR ANODIZED	GLAZED
225	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
226	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
227	E	LEVEL 3	SINGLE - 36" x 84"	3'-0"	7'-0"			
228	E	LEVEL 3	SINGLE - 24" x 84"	2'-0"	7'-0"			
229	H	LEVEL 3	BIFOLD - 53 1/4" x 84"	4'-5 1/4"	7'-0"			
OP1	-	LEVEL 3	OPENING - 206" x 80"	0'-0"	0'-0"			
OP2	-	LEVEL 3	OPENING - 60" x 108"	0'-0"	0'-0"			
OP3	-	LEVEL 3	OPENING - 61.25" x 108"	0'-0"	0'-0"			

**WINDOW WALL SCHEDULE**

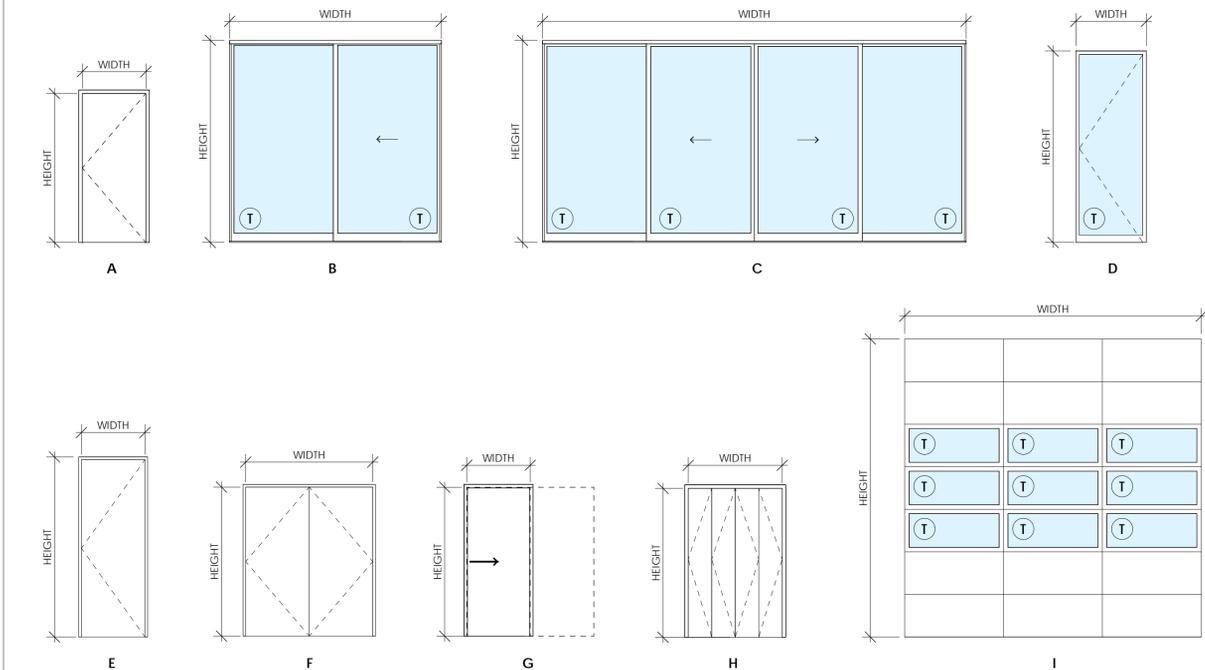
MARK	Type	LENGTH	MATERIAL	FINISH	HEIGHT
W1	WINDOW WALL	6' - 6"	ALUMINUM	CLEAR ANODIZED	PER LEGEND
W2	CLEARSTORY WINDOW	38' - 1 1/4"	ALUMINUM	CLEAR ANODIZED	PER LEGEND

Ⓣ = TEMPERED

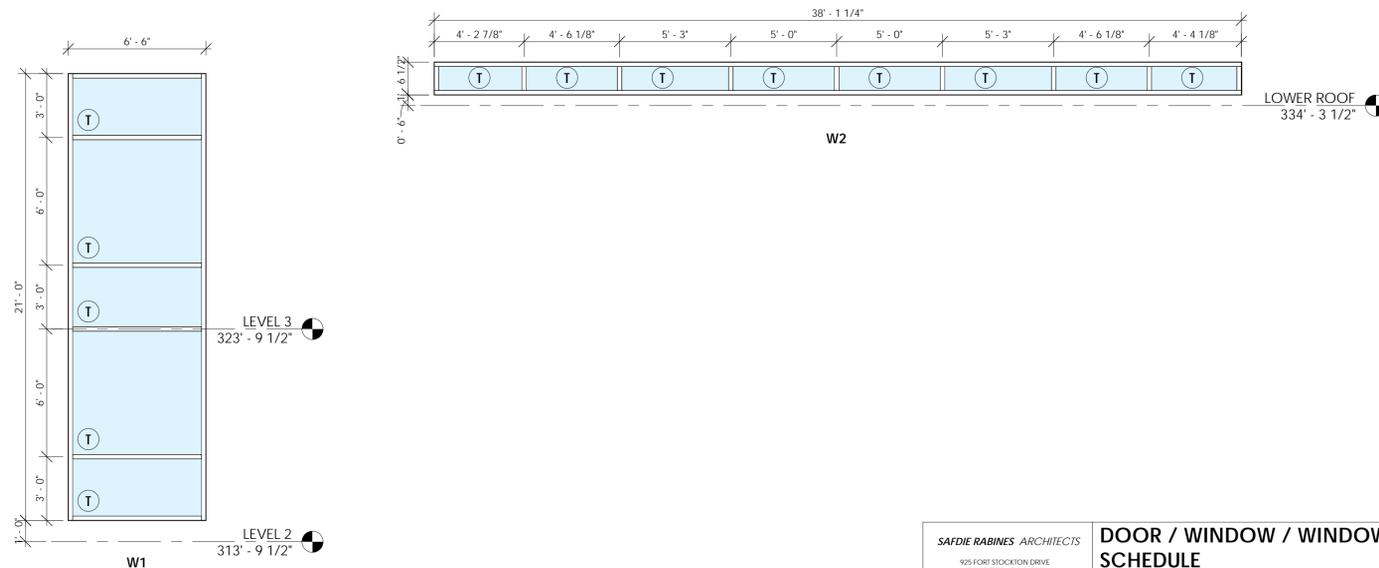
**WINDOW SCHEDULE**

MARK	TYPE	LEVEL	Type	WIDTH	WIDTH 2	HEIGHT	SILL HEIGHT	MATERIAL	FINISH	NOTES
001	A	LEVEL 1	FIXED - 78" x 66"	6'-6"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
002	B	LEVEL 1	CASEMENT - 36" x 66"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
003	A	LEVEL 1	FIXED RED FRAME - 21" x 102"	1'-9"		8'-6"	0'-0"	ALUMINUM	CLEAR ANODIZED	
101	C	LEVEL 2	SLIDER - 150" x 66"	12'-6"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
102	D	LEVEL 2	CORNER FIXED - CLASSRM	3'-0 3/4"	3'-0 3/4"	5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
103	C	LEVEL 2	SLIDER - 166" x 66"	13'-10"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
104	C	LEVEL 2	SLIDER - 180" x 66"	15'-0"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
105	D	LEVEL 2	CORNER FIXED - GYM	4'-11 3/4"	3'-0"	5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
106	A	LEVEL 2	FIXED - 78" x 66"	6'-6"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
107	A	LEVEL 2	FIXED - 78" x 66"	6'-6"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
108	A	LEVEL 2	FIXED - 88" x 66"	7'-4"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
109	A	LEVEL 2	FIXED - 57" x 66"	4'-9"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
110	A	LEVEL 2	FIXED - 102" x 66"	8'-6"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
111	A	LEVEL 2	FIXED - 78" x 66"	6'-6"		5'-6"	3'-0"	ALUMINUM	CLEAR ANODIZED	
112	A	LEVEL 2	FIXED - 49.25" x 102"	4'-1 1/4"		8'-6"	0'-0"	ALUMINUM	CLEAR ANODIZED	
113	A	LEVEL 2	FIXED - 49.25" x 102"	4'-1 1/4"		8'-6"	0'-0"	ALUMINUM	CLEAR ANODIZED	
114	A	LEVEL 2	FIXED - 56.25" x 102"	4'-8"		8'-6"	0'-0"	ALUMINUM	CLEAR ANODIZED	
115	A	LEVEL 2	FIXED - 55" x 102"	4'-7"		8'-6"	0'-0"	ALUMINUM	CLEAR ANODIZED	
201	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
202	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
203	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
204	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
205	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
206	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
207	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
208	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
209	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
210	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
211	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
212	B	LEVEL 3	CASEMENT - 36" x 72"	3'-0"		8'-0"	3'-0"	ALUMINUM	CLEAR ANODIZED	
301	A	LEVEL 3	FIXED CLEARSTORY	4'-1 3/4"		2'-0 1/2"	10'-6"	ALUMINUM	CLEAR ANODIZED	
302	A	LOWER ROOF	FIXED CLEARSTORY	4'-3"		2'-0 1/2"	0'-0"	ALUMINUM	CLEAR ANODIZED	
303	A	LOWER ROOF	FIXED CLEARSTORY	5'-0"		2'-0 1/2"	0'-0"	ALUMINUM	CLEAR ANODIZED	
304	A	LOWER ROOF	FIXED CLEARSTORY	4'-9"		2'-0 1/2"	0'-0"	ALUMINUM	CLEAR ANODIZED	
305	A	LOWER ROOF	FIXED CLEARSTORY	4'-9"		2'-0 1/2"	0'-0"	ALUMINUM	CLEAR ANODIZED	
306	A	LOWER ROOF	FIXED CLEARSTORY	5'-0"		2'-0 1/2"	0'-0"	ALUMINUM	CLEAR ANODIZED	
307	A	LOWER ROOF	FIXED CLEARSTORY	4'-3"		2'-0 1/2"	0'-0"	ALUMINUM	CLEAR ANODIZED	
308	A	LOWER ROOF	FIXED CLEARSTORY	4'-1 3/4"		2'-0 1/2"	0'-0"	ALUMINUM	CLEAR ANODIZED	

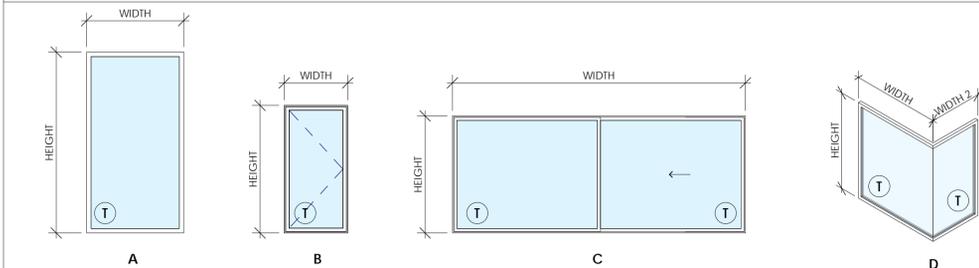
**DOOR LEGEND**



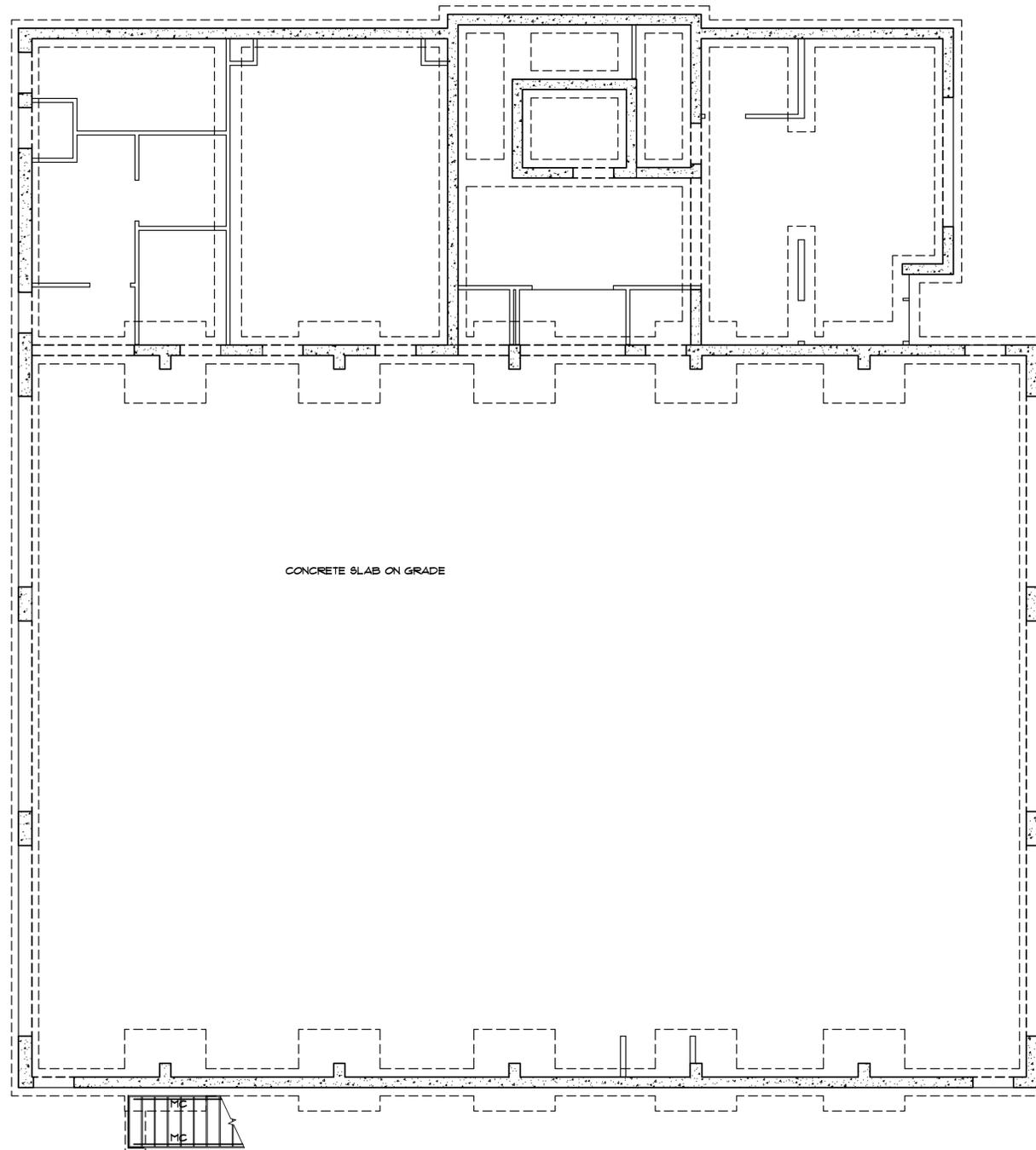
**WINDOW WALL LEGEND**



**WINDOW LEGEND**



SAFDIE RABINES ARCHITECTS 925 FORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.291.8153 srarch@safdie-rabines.com	<b>DOOR / WINDOW / WINDOW WALL SCHEDULE</b>		<b>28 - D</b>
	BRIDGING DOCUMENTS FOR <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.		
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 28 OF 33 SHEETS		WBS S-13021
APPROVED FOR CITY ENGINEER _____ DATE _____	CHECKED BY: JASIAH NEFF PROJECT MANAGER		SUBMITTED BY: JASON GRANI SENIOR ENGINEER
PRINT NAME _____ RCER	DESCRIPTION ORIGINAL	BY XXXX	APPROVED DATE 3.3.2017
CONTRACTOR INSPECTOR _____	DATE STARTED _____	DATE COMPLETED _____	6274-1897 CCS27 COORDINATE CCS83 COORDINATE 40304 - 28 - D



**LEGEND**

- CONCRETE FOUNDATIONS
- CONCRETE TILT UP WALL
- STUD WALL

CONCRETE SLAB ON GRADE

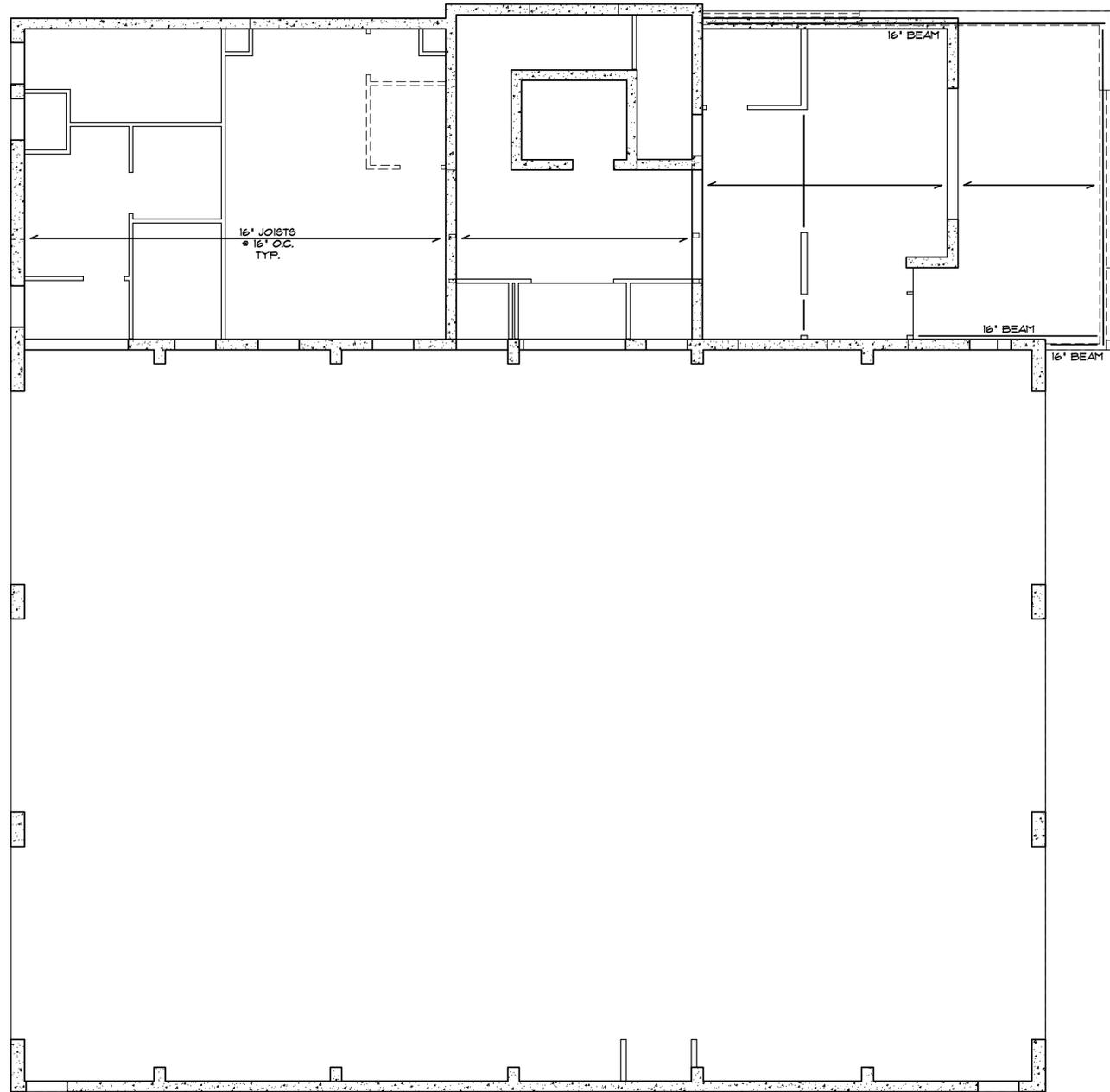
NOT FOR CONSTRUCTION



**COTTRELL ENGINEERING**  
 Consulting Structural Engineers  
 822 Pismo Court  
 San Diego, California 92109  
 (619) 287-9124  
 cottrellengineering@gmail.com

**FOUNDATION PLAN**  
 SCALE: 3/16" = 1'-0" 1

<p>SCALE As indicated</p>	<p><b>FOUNDATION PLAN</b> <span style="float: right;">S1.0</span></p> <p>BRIDGING DOCUMENTS FOR</p> <p><b>FIRE STATION 50</b></p> <p>SE CORNER OF NOBEL DR. AND SHORELINE DR.</p>																																								
	<p>SPEC. NO. <span style="float: right;">CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 29 OF 33 SHEETS</span> <span style="float: right;">WBS S-13021</span></p>																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">APPROVED:</td> <td colspan="2">SUBMITTED BY:</td> </tr> <tr> <td>FOR CITY ENGINEER</td> <td>DATE</td> <td>JASON GRANI</td> <td>SENIOR ENGINEER</td> </tr> <tr> <td>PRINT NAME</td> <td>RCE#</td> <td colspan="2">CHECKED BY:</td> </tr> <tr> <td></td> <td></td> <td>JASIAH NEFF</td> <td>PROJECT MANAGER</td> </tr> <tr> <td>DESCRIPTION</td> <td>BY</td> <td>APPROVED</td> <td>DATE</td> </tr> <tr> <td>ORIGINAL</td> <td>XXXX</td> <td></td> <td>3.3.2017</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">CONTRACTOR</td> <td colspan="2">DATE STARTED</td> </tr> <tr> <td>INSPECTOR</td> <td></td> <td colspan="2">DATE COMPLETED</td> </tr> </table>		APPROVED:		SUBMITTED BY:		FOR CITY ENGINEER	DATE	JASON GRANI	SENIOR ENGINEER	PRINT NAME	RCE#	CHECKED BY:				JASIAH NEFF	PROJECT MANAGER	DESCRIPTION	BY	APPROVED	DATE	ORIGINAL	XXXX		3.3.2017									CONTRACTOR		DATE STARTED		INSPECTOR		DATE COMPLETED	
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INSPECTOR		DATE COMPLETED																																							
<p>40304 - 29-D</p>																																									



**LEGEND**

- CONCRETE TILT UP WALL
- STUD WALL BELOW
- STUD WALL ABOVE

NOT FOR CONSTRUCTION

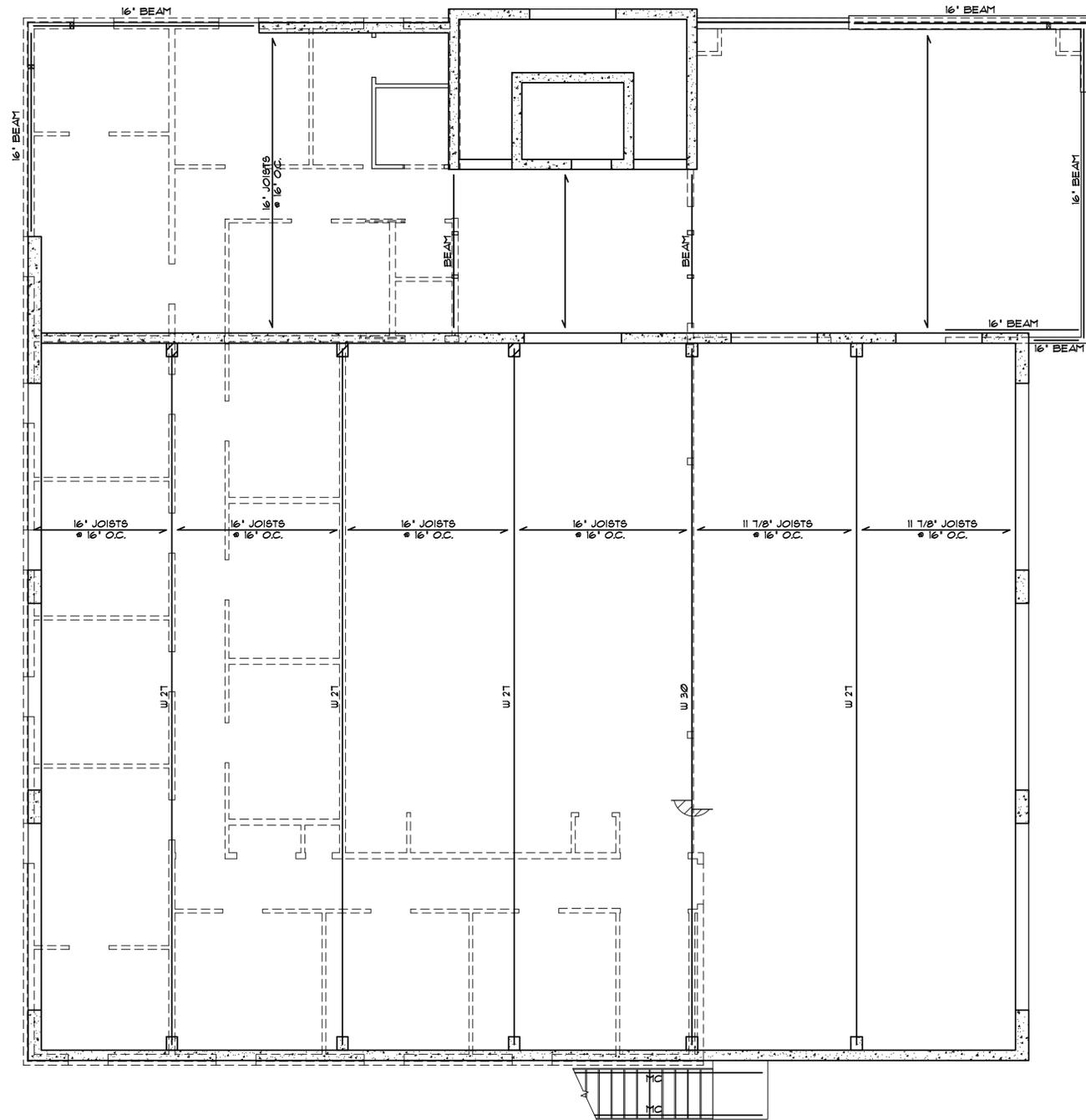


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 Consulting Structural Engineers  
 822 Pismo Court  
 San Diego, California 92109  
 (619) 287-9124  
 cottrellengineering@gmail.com

**SECOND FLOOR FRAMING PLAN** ①  
 SCALE: 3/16" = 1'-0"

 SCALE As indicated	<b>SECOND FLOOR FRAMING PLAN</b>		S2.0
	BRIDGING DOCUMENTS FOR <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.		
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 30 OF 33 SHEETS		WBS S-13021
APPROVED:	FOR CITY ENGINEER	DATE	SUBMITTED BY:
PRINT NAME	RCE#	DATE	JASON GRANI SENIOR ENGINEER
DESCRIPTION	BY	APPROVED	CHECKED BY:
ORIGINAL	XXXX	3.3.2017	JASIAH NEFF PROJECT MANAGER
			254-1707 CCS27 COORDINATE
			6274-1897 CCS83 COORDINATE
CONTRACTOR	INSPECTOR	DATE STARTED	DATE COMPLETED
			40304 - 30-D

SAN DIEGO FIRE STATION 50



**THIRD FLOOR FRAMING PLAN** ①  
SCALE: 3/16" = 1'-0"

**LEGEND**

CONCRETE TILT UP WALL	
STUD WALL BELOW	
STUD WALL ABOVE	

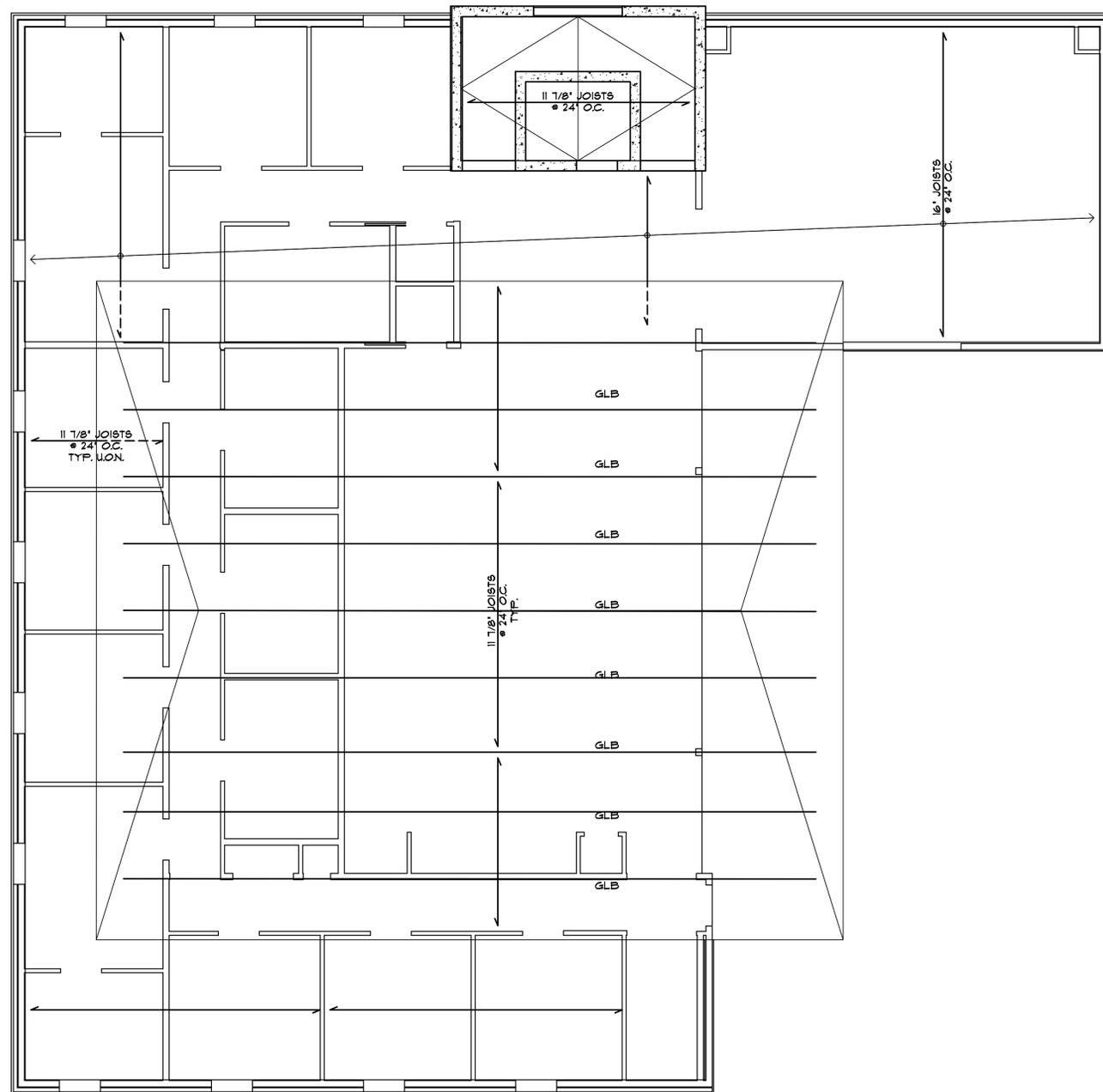
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Consulting Structural Engineers  
822 Pismo Court  
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SCALE As indicated	<b>THIRD FLOOR FRAMING PLAN</b>	S3.0
	BRIDGING DOCUMENTS FOR <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.	
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 31 OF 33 SHEETS	WBS S-13021
APPROVED:	FOR CITY ENGINEER _____ DATE _____	SUBMITTED BY: JASON GRANI SENIOR ENGINEER
PRINT NAME _____	RCE# _____	CHECKED BY: JASIAH NEFF PROJECT MANAGER
DESCRIPTION	BY	APPROVED
ORIGINAL	XXXX	3.3.2017
CONTRACTOR _____	DATE STARTED _____	40304 - 31-D
INSPECTOR _____	DATE COMPLETED _____	

SAN DIEGO FIRE STATION 50



**ROOF FLOOR FRAMING PLAN** ①  
SCALE: 3/16"=1'-0"

**LEGEND**

- CONCRETE TILT UP WALL
- STUD WALL BELOW
- STUD WALL ABOVE

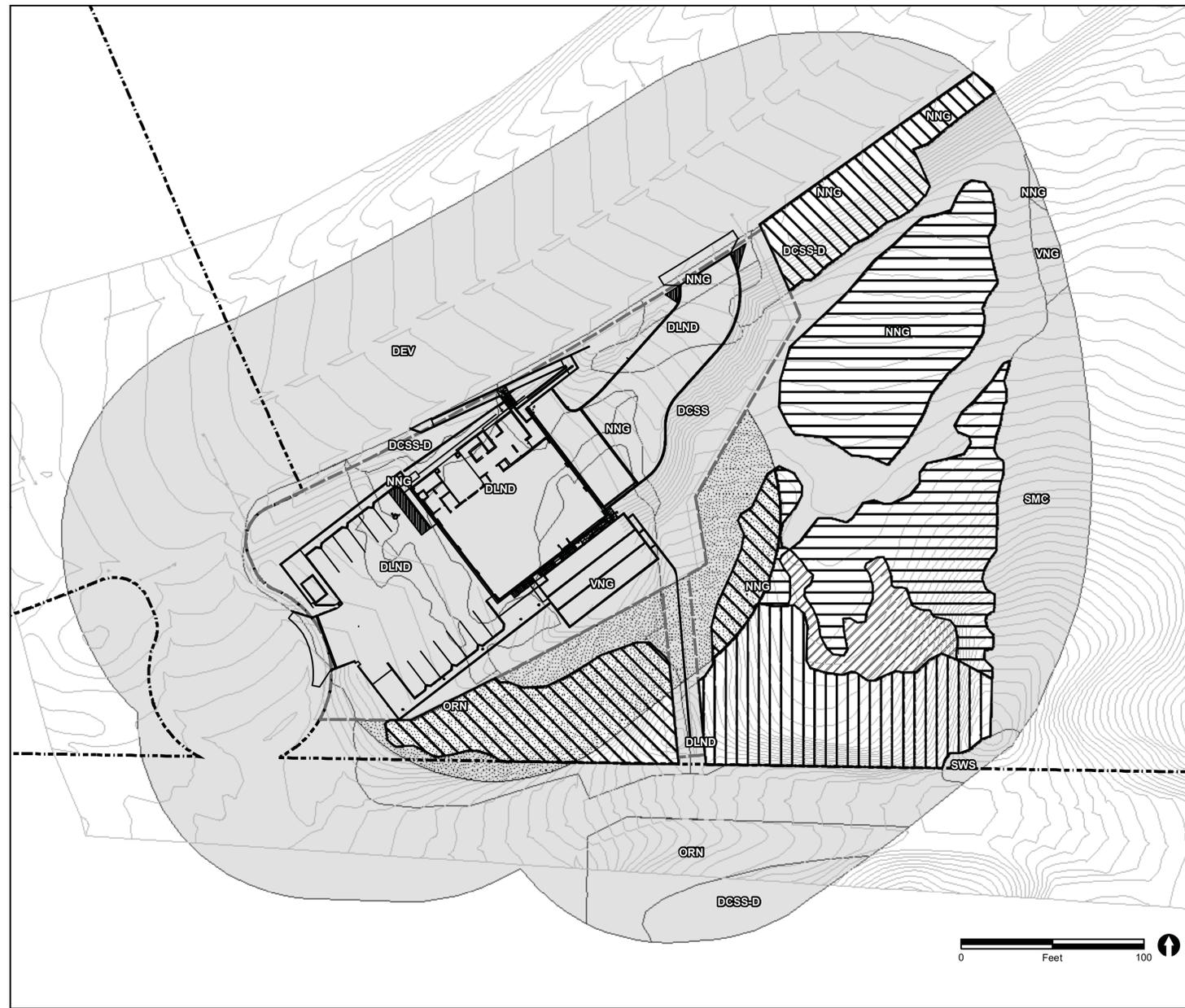
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<p>SCALE As indicated</p>	<b>ROOF FRAMING PLAN</b>	S4.0
	BRIDGING DOCUMENTS FOR <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.	
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 32 OF 33 SHEETS	
	WBS	S-13021
APPROVED:	SUBMITTED BY:	
FOR CITY ENGINEER _____ DATE _____	JASON GRANI SENIOR ENGINEER	
PRINT NAME _____ RCE# _____	CHECKED BY:	
	JASIAH NEFF PROJECT MANAGER	
DESCRIPTION	BY	APPROVED
ORIGINAL	XXXX	3.3.2017
CONTRACTOR _____	DATE STARTED _____	40304 - 32-D
INSPECTOR _____	DATE COMPLETED _____	

SAN DIEGO FIRE STATION 50



- Project Site
  - Site Plan
  - Parcel Boundary
  - Brush Management Zone 2
- Vegetation Communities**
- DEV: Urban/Developed Land
  - DCSS: Diegan Coastal Sage Scrub
  - DCSS-D: Diegan Coastal Sage Scrub - Disturbed
  - DLND: Disturbed Land
  - VNG: Valley Needlegrass Grassland
  - NNG: Non-native Grassland
  - ORN: Ornamental Plantings
  - SMC: Southern Mixed Chaparral
  - SWS: Southern Willow Scrub
- Native Grassland Vegetation Areas**
- Creation Area - 0.217 acre
  - Restoration Area - 0.434 acre
  - Vegetation Area - 0.298 acre

SCIENTIFIC NAME	COMMON NAME	APPROXIMATE PLANTING DENSITY (PLANTS/ACRE)	APPROXIMATE SEED DENSITY (LBS/ACRE)
STIPA PULCHRA	PURPLE NEEDLEGRASS	500	10
STIPA CERNUA	NODDING NEEDLEGRASS	250	10
ALLIUM PRAECOX	EARLY ONION	90	3
DICHELSTEMMA CAPITATUM	BLUE DICKS	45	3
SISTRINCHIUM BELLUM	WESTERN BLUE-EYED GRASS	45	3
ARTEMISIA CALIFORNICA	CALIFORNIA SAGEBRUSH	20	--
ACMISPON GLABER	DEERWEED	20	--
CALYSTEGIA MACROSTEGIA	MORNING GLORY	10	--
SALVIA MELLIFERA	BLACK SAGE	10	--
MIMULUS AURANTIACUS	BUSH MONKEY-FLOWER	10	3
DEMANDRA FASCICULATA	FASCICLED TARWEED	--	5
NYCTALANTHUS TEXANUS	BLUE TODDLER	--	1
OSMADENIA TENNELLA	OSMADENIA	--	1
PSEUDOGNAPHALUM BICOLOR	BICOLOR CUDWEED	--	1
PSEUDOGNAPHALUM CALIFORNICUM	CALIFORNIA EVERLASTING	--	1
CROTON SETIGER	DOVE WEED	--	1
DALYSCUS PUBESULUS	BATTLESHIP WEED	--	1
LAENICOLA COULTERI	COULTER'S HORSEWEED	--	1
NAVARRETTIA HAMATA	HOKED NAVARRETTIA	--	1
TOTAL		1,000	45

MILESTONE	SUCCESS CRITERIA	REMEDIAL MEASURES
INSTALLATION	ALL RESTORATION AREAS SEEDED OR PLANTED. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	RESEED BARE AREAS, REPAIR EROSION, INSTALL BMPS AS REQUIRED.
120 DAYS (END OF PEP)	NO QUANTITATIVE STANDARDS FOR NATIVE COVER. LESS THAN 25% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. NO EROSION, AND EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	RESEED BARE/THIN AREAS, INTENSIFY WEED CONTROL, REPAIR EROSION AND/OR BMPS.
YEAR 1	NO QUANTITATIVE STANDARDS FOR NATIVE COVER. LESS THAN 25% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	SAME AS ABOVE.
YEAR 2	NATIVE PLANT COVER EQUAL TO 30% OF THE REFERENCE SITE (ADJACENT NATIVE GRASSLAND). LESS THAN 25% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	SAME AS ABOVE.
YEAR 3	NATIVE PLANT COVER EQUAL TO 50% OF THAT OF THE REFERENCE SITE. LESS THAN 20% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	SAME AS ABOVE.
YEAR 4	NATIVE PLANT COVER EQUAL TO 65% OF THAT OF THE REFERENCE SITE. LESS THAN 20% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	SAME AS ABOVE.
YEAR 5	NATIVE PLANT COVER EQUAL 75-100% OF THAT OF THE REFERENCE SITE. LESS THAN 20% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	SAME AS ABOVE.

MILESTONE	SUCCESS CRITERIA	REMEDIAL MEASURES
INSTALLATION	ALL RESTORATION AREAS SEEDED OR PLANTED. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	RESEED BARE AREAS, REPAIR EROSION, INSTALL BMPS AS REQUIRED.
120 DAYS (END OF PEP)	NO QUANTITATIVE STANDARDS FOR NATIVE COVER. LESS THAN 25% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. NO EROSION, AND EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	RESEED BARE/THIN AREAS, INTENSIFY WEED CONTROL, REPAIR EROSION AND/OR BMPS.
YEAR 1 (MONTHS 1-12)	NO QUANTITATIVE STANDARDS FOR NATIVE COVER. LESS THAN 25% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	SAME AS ABOVE.
YEAR 2 (MONTHS 13-25)	TOTAL NATIVE PLANT COVER OF AT LEAST 30%. LESS THAN 25% ANNUAL WEED COVER; NO INVASIVE EXOTIC WEEDS. 80% SURVIVAL OF CONTAINER PLANTS. EROSION CONTROL BMPS IN PLACE AND FUNCTIONAL.	SAME AS ABOVE.

TYPE/TASK	INSTALLATION	PEP	YEAR 1	YEARS 2+
MAINTENANCE				
WEED CONTROL		MONTHLY OR AS NEEDED	QUARTERLY OR AS NEEDED	QUARTERLY
HORTICULTURAL TREATMENT		PER THE APPROVED RESTORATION PLAN.		
EROSION CONTROL		AS NEEDED		
TRASH REMOVAL		MONTHLY OR AS NEEDED	QUARTERLY OR AS NEEDED	QUARTERLY
REPLACEMENT PLANTING AND SEEDING		AS NEEDED	FALL	FALL
SITE PROTECTION AND SIGNAGE		AS NEEDED	AS NEEDED	AS NEEDED
PEST MANAGEMENT		AS NEEDED	AS NEEDED	AS NEEDED
VANDALISM		AS NEEDED	AS NEEDED	AS NEEDED
IRRIGATION		AS NEEDED	AS NEEDED	AS NEEDED
MAINTENANCE MONITORING				
QUALITATIVE	AS NEEDED	BI-WEEKLY FOR FIRST MONTH, MONTHLY THEREAFTER	MONTHLY FOR FIRST 3 MONTHS, QUARTERLY THEREAFTER	QUARTERLY
QUANTITATIVE	--	--	ONCE DURING SPRING	ONCE DURING SPRING
REPORTING	FOLLOWING INSTALLATION	FOLLOWING COMPLETION OF PEP	ONCE, FOLLOWING QUANTITATIVE MONITORING	ONCE, FOLLOWING QUANTITATIVE MONITORING*

NOTE: SCHEDULE IS APPROXIMATE. ABBREVIATIONS: PEP = PLANT ESTABLISHMENT PERIOD; SOR = SITE OBSERVATION REPORT. \*IF YEAR 5 SUCCESS CRITERIA ARE NOT MET, THE M&M PROGRAM WILL BE EXTENDED AS REQUIRED, QUARTERLY MAINTENANCE AND MONITORING WITH YEARLY REPORTING SHALL CONTINUE AS NEEDED.

ENVIRONMENTAL REQUIREMENTS:  
PTS 463835 - NORTH UNIVERSITY CITY FIRE STATION PROJECT- SDP IS SUBJECT TO MITIGATION, MONITORING AND REPORTING PROGRAM AND SHALL CONFORM TO THE MITIGATION CONDITIONS AS CONTAINED IN THE MITIGATED NEGATIVE DECLARATION/463835.

GENERAL RESTORATION NOTES:

- CREATION AND RESTORATION (RESTORATION) AND REVEGETATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF SAN DIEGO LANDSCAPE STANDARDS AND CITY SPECIFICATIONS UNDER DIRECTION OF RESIDENT ENGINEER (RE) AND PROJECT BIOLOGIST.
- DURING PROJECT GRADING, THE TOP 8 INCHES OF TOPSOIL WITHIN NATIVE HABITATS SHALL BE SALVAGED, STORED, AND REAPPLIED TO THE RESTORATION AND REVEGETATION AREAS. AREAS WITH CRYPTOGAMMIC CRUST AND/OR ASHY SPIKE-MOSS WILL BE CAREFULLY REMOVED AND REINSTALLED INTACT, IF POSSIBLE.
- A REFERENCE SITE WILL BE ESTABLISHED WITHIN THE VALLEY NEEDLEGRASS GRASSLAND ADJACENT TO THE RESTORATION AREA.
- SEEDED, PLANTED, AND VOLUNTEER NATIVE PLANTS IN ALL AREAS SHALL ACHIEVE SOIL COVERAGE EQUAL TO 75-100% OF THAT OF THE REFERENCE SITE (OR AS APPROVED BY THE PROJECT BIOLOGIST AND CITY REPRESENTATIVE BASED ON SITE CONDITIONS IF LESSER % COVERAGE), WITHIN 25 MONTHS AFTER COMPLETION OF THE 120-DAY PLANT ESTABLISHMENT PERIOD (PEP).
- RESTORATION AND REVEGETATION SHALL BE ACCOMPLISHED IN A MANNER SO AS TO PROVIDE VISUAL AND HORTICULTURAL COMPATIBILITY WITH THE ADJACENT NATIVE VALLEY NEEDLEGRASS GRASSLAND.
- INVASIVE PLANT SPECIES INCLUDING BUT NOT LIMITED TO THOSE LISTED IN THE CITY'S LANDSCAPE STANDARDS ARE PROHIBITED AND SHALL BE ERADICATED AND REMOVED BY CONTRACTOR, AND NATIVE PLANT SPECIES SHALL BE USED IN NATURALIZED AREAS.
- TIMING - ALL RESTORATION AND REVEGETATION SHALL BE COMPLETED WITHIN 90 CALENDAR DAYS OF THE COMPLETION OF PROJECT GRADING, OR AS RECOMMENDED BY THE RE AND THE PROJECT BIOLOGIST.
- ALL SLOPES 3:1 OR GREATER SHALL REQUIRE BIODEGRADABLE EROSION CONTROL BLANKET, STRAW WATTLE, OR OTHER SLOPE PROTECTION METHODS PROVIDED BY CONTRACTOR AS RECOMMENDED BY THE PROJECT BIOLOGIST PRIOR TO INSTALLATION OF THE RESTORATION, OR IN THE EVENT OF SLOPE OR RESTORATION FAILURE. ALL MULCH GROUND COVER USED SHALL BE CLEAN, FREE FROM WEEDS, NON-NATIVE SEEDS, AND DEBRIS AS CERTIFIED BY THE SUPPLIER, AS APPLICABLE.
- CONTRACTOR SHALL CORRECT ALL SOIL EROSION, AND SHALL REPAIR AND/OR REPLACE ALL EROSION CONTROL BMPS DAMAGED DURING THE 120-DAY PEP AND THROUGHOUT THE MAINTENANCE AND MONITORING PERIOD (5 YEARS FOR REVEGETATION AREA, 25 MONTHS FOR RESTORATION AREA). ANY EROSION CONTROL MEASURES, INCLUDING SILT FENCING, GRAVEL BAGS, FIBER ROLLS, AND/OR OTHER BMPS SHALL BE REMOVED BY THE CONTRACTOR FOLLOWING ACCEPTANCE OF THE MAINTENANCE AND MONITORING PERIOD BY THE RE AND PROJECT BIOLOGIST. ALL HAY/STRAW PRODUCTS SHALL BE CLEAN AND FREE OF WEEDS, SEEDS, AND DEBRIS.
- CONTRACTOR SHALL REMOVE ALL TRASH AND/OR DEBRIS FROM THE RESTORATION AND REVEGETATION SITE PRIOR TO AND FOLLOWING THE RESTORATION INSTALLATION, AND UNTIL THE END OF THE 5-YEAR MAINTENANCE AND MONITORING PERIOD. CONTRACTOR SHALL REMOVE ALL TEMPORARY IRRIGATION LINES AND APPURTENANCES FOLLOWING ACCEPTANCE BY THE RE AND THE PROJECT BIOLOGIST.

TEMPORARY IRRIGATION:

- UNDER THE DIRECTION OF THE RE AND PROJECT BIOLOGIST, TEMPORARY IRRIGATION WILL BE APPLIED AS FOLLOWS:
- NO PERMANENT IRRIGATION SYSTEM WILL BE INSTALLED. THE PROJECT BIOLOGIST SHALL RECOMMEND TEMPORARY IRRIGATION MEASURES AS NEEDED. CONTRACTOR SHALL PROPOSE IRRIGATION METHODS AND PROVIDE IRRIGATION LINES AND APPURTENANCES.
  - TEMPORARY IRRIGATION MAY BE CONNECTED TO THE PERMANENT AND IRRIGATION SYSTEM USED FOR PROJECT LANDSCAPING, AS DESCRIBED ON THE LANDSCAPE DEVELOPMENT HARDSCAPE PLAN.
  - ALL IRRIGATION SHALL CONFORM TO THE CITY OF SAN DIEGO'S LAND DEVELOPMENT MANUAL, LANDSCAPE STANDARDS, AND OTHER CITY AND REGIONAL STANDARDS.
  - HYDROSEED AND/OR CONTAINER PLANTS SHALL REQUIRE AN IRRIGATION PLAN AND APPROVAL BY CITY REPRESENTATIVE AND PROJECT BIOLOGIST. CONTRACTOR SHALL PREPARE AND SUBMIT THE PLAN TO THE RE FOR APPROVAL. CONTRACTOR SHALL PROVIDE ALL IRRIGATION LINES AND APPURTENANCES TO FUNCTION IN ACCORDANCE WITH THE PLAN AND MAKE ANY ADJUSTMENTS NECESSARY TO MEET THE SUCCESS CRITERIA (TABLE 1) PER PROJECT BIOLOGIST RECOMMENDATIONS.
  - TEMPORARY IRRIGATION VIA IRRIGATION LINES AND APPURTENANCES (OR ALTERNATE METHOD APPROVED BY THE RE AND PROJECT BIOLOGIST) SHALL BE PROVIDED BY CONTRACTOR FOR A PERIOD SUFFICIENT TO ESTABLISH PLANT MATERIAL AND PROVIDE VEGETATIVE COVER THAT PREVENTS SOIL EROSION. AMOUNT OF IRRIGATION MUST BE ADJUSTED WHEN WARRANTED BY SITE CONDITIONS. PROJECT BIOLOGIST AND LANDSCAPE CONTRACTOR SHALL MONITOR TO DETERMINE SUCCESS AND ADDED REQUIREMENT FOR TEMPORARY IRRIGATION.
  - IRRIGATION SHALL BE PERFORMED IN A MANNER THAT AVOIDS RUNOFF, SEEPAGE, AND OVERSPRAY ONTO ADJACENT PROPERTIES, NON-IRRIGATED AREAS, WALLS, ROADWAYS, OR STRUCTURES.
  - THE WATER DELIVERY RATE SHALL BE MATCHED TO THE SLOPE GRADIENT AND THE PERCOLATION RATE OF THE SOIL.
  - IRRIGATION SHALL DELIVER WATER SUFFICIENTLY AND UNIFORMLY AND SHALL BE APPROPRIATE TO THE NEEDS OF THE PLANT MATERIALS. RECOMMENDED REFERENCE MATERIALS FOR IRRIGATION SYSTEM DESIGN ARE LISTED IN APPENDIX "A" OF THE CITY'S LANDSCAPE STANDARDS.
  - IF THE PROJECT BIOLOGIST RECOMMENDS AN ALTERNATIVE IRRIGATION METHOD SUCH AS TRUCK WATERING, ALL VEHICLES SHALL STAY ON PERMANENT ACCESS ROUTES AND SHALL NOT IRRIGATE BEYOND THE RESTORATION AND REVEGETATION BOUNDARIES.

SEEDING PROCEDURES:

- THE SEED MIX FOR THE RESTORATION AND REVEGETATION AREAS WILL BE IDENTICAL AND (SEE CONTAINER PLANT AND SEED PALETTE TABLE) SHALL BE SCATTERED BY HAND AND RAKED INTO THE TOP TWO INCHES OF SOIL OR APPLIED VIA HYDROSEED METHODS, AND MUST BE APPLIED AS EVENLY AS POSSIBLE. SEED SHALL BE APPLIED BY THE CONTRACTOR APPLIED BETWEEN NOVEMBER AND MARCH OR AS APPROVED BY THE PROJECT BIOLOGIST.
- ALL SEED SHALL ORIGINATE FROM WITHIN 25 MILES OF THE PROJECT SITE IF POSSIBLE OR WITHIN 25 MILES OF SAN DIEGO COUNTY, IF APPROVED BY THE RE AND PROJECT BIOLOGIST. IF NO LOCAL SEED IS AVAILABLE, THE CONTRACTOR IS TO PROVIDE EVIDENCE AND NOTIFY THE CITY REPRESENTATIVE AND THE PROJECT BIOLOGIST FOR ALTERNATIVE COMPLIANCE. CONTRACTOR SHALL RETAIN AND SUBMIT ALL SEED TAGS FOR SEED PRODUCTS TO BE USED TO THE RE AND PROJECT BIOLOGIST PRIOR TO APPLICATION.
- SEEDING SHALL OCCUR ONLY AFTER THE PROJECT BIOLOGIST HAS OBSERVED AND APPROVED THAT THE SITE HAS BEEN PROPERLY PREPARED.
- IF CONTRACTOR APPLIES HYDROMULCH, TYPE 9 MULCH (WOOD FIBER) OR BONDED FIBER MATRIX SHALL BE APPLIED AT MINIMUM RATE OF 2,000 POUNDS/ACRE, EXCEPT IF USED WITH STRAW MULCH, WHEN IT SHALL BE APPLIED AT MINIMUM RATE OF 400 POUNDS/ACRE.
- A WETTING AGENT CONSISTING OF 95 PERCENT ALKYL POLYETHYLENE GLYCOL ETHER SHALL BE APPLIED AS PER MANUFACTURER'S RECOMMENDATIONS, OR AS RECOMMENDED BY THE PROJECT BIOLOGIST.
- EQUIPMENT USED FOR THE APPLICATION OF SLURRY SHALL HAVE A BUILT-IN AGITATION SYSTEM TO SUSPEND AND HOMOGENOUSLY MIX THE SLURRY. THE SLURRY MIX SHALL BE DYED GREEN. THE EQUIPMENT MUST HAVE A PUMP CAPABLE OF APPLYING SLURRY UNIFORMLY.

CONTAINER PLANT PROCEDURES:

- PLANTING SHALL OCCUR IN THE SAME MANNER FOR THE RESTORATION AND REVEGETATION AREAS. CONTRACTOR SHALL SUPPLY AND PLANT A MINIMUM OF 1,000 CONTAINER PLANTS PER ACRE OF NON-INVASIVE AND/OR NATIVE PLANTS AS SHOWN IN THE CONTAINER PLANT AND SEED PALETTE TABLE, AT THE RECOMMENDATION AND UNDER THE DIRECTION OF THE RE AND PROJECT BIOLOGIST. PROJECT BIOLOGIST SHALL CONSIDER THE 120-DAY PEP AND 5-YEAR MAINTENANCE AND MONITORING PERIOD, SUCCESS CRITERIA (SEE TABLE 1), IN THE EVENT THAT ADDITIONAL CONTAINER PLANTS ARE RECOMMENDED BY THE BIOLOGIST FOR INSTALLATION.
- CONTAINER PLANTS SHALL BE PROCURED FROM A NURSERY QUALIFIED TO PROPAGATE AND CARE FOR NATIVE PLANT SPECIES. NATIVE CONTAINER PLANT MATERIALS SHALL ORIGINATE WITHIN 25-MILES OF PROJECT VICINITY IF POSSIBLE, OR WITHIN 25 MILES OF SAN DIEGO COUNTY, IF APPROVED BY RE AND PROJECT BIOLOGIST.
- CONTAINER PLANT MATERIAL MUST BE DELIVERED TO PROJECT SITE IN A HEALTHY AND VIGOROUS CONDITION AND LABELED CLEARLY. PROJECT BIOLOGIST WILL REJECT PLANT MATERIAL DELIVERED PRIOR TO PLANTING DATE. SPECIMENS SHOWING DISEASE, MISHANDLING, DEFECTS OR DAMAGE, OVER OR UNDER-WATERING, OR OTHER DEFICIENCY AT TIME OF DELIVERY WILL BE REJECTED.
- CONTAINER PLANTS WILL BE PLACED BY THE CONTRACTOR FOR THE REVIEW AND APPROVAL BY THE PROJECT BIOLOGIST. THE SUGGESTED CONTAINER PLANT INSTALLATION PROCEDURE SHALL BE AS DIRECTED BY THE RE AND PROJECT BIOLOGIST.

MAINTENANCE REQUIREMENTS:

- MAINTENANCE REQUIREMENTS FOR THE RESTORATION AND REVEGETATION AREAS WILL BE IDENTICAL.
- THE RESTORATION AREA SHALL BE MAINTAINED FOR A PERIOD OF NOT LESS THAN 5 YEARS AND THE REVEGETATION AREA SHALL BE MAINTAINED FOR A PERIOD OF NOT LESS THAN 25 MONTHS (TABLE 2) OR AS DETERMINED BY THE RE AND PROJECT BIOLOGIST. ALL AREAS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL FINAL APPROVAL BY THE CITY. THE MAINTENANCE PERIOD BEGINS ON THE FIRST DAY FOLLOWING ACCEPTANCE (AT THE END OF 120-DAY PEP) AND MAY BE EXTENDED AT THE DETERMINATION OF THE CITY REPRESENTATIVE AND RE.
- PRIOR TO FINAL APPROVAL, THE CITY REPRESENTATIVE MAY REQUIRE CORRECTIVE ACTION INCLUDING BUT NOT LIMITED TO WEED ERADICATION AND REMOVAL, REPLANTING, THE PROVISION OR MODIFICATION OF IRRIGATION SYSTEMS, AND THE REPAIR OF ANY SOIL EROSION OR SLOPE SLIPPAGE, IN CONSULTATION WITH THE PROJECT BIOLOGIST.
- THE 120-DAY PEP FOLLOWS SEED APPLICATION AND PLANT INSTALLATION. THE PEP START OF MAINTENANCE AND MONITORING PERIOD (5 YEARS FOR RESTORATION AREA, 25 MONTHS FOR REVEGETATION AREA), AND ACCEPTANCE FOLLOWING COMPLETION THE MAINTENANCE AND MONITORING PERIOD, SHALL BE DETERMINED BY CITY REPRESENTATIVE IN CONSULTATION WITH PROJECT BIOLOGIST.
- WEEDING, HERBICIDE, AND/OR PESTICIDE APPLICATION SHALL BE CONDUCTED BY CONTRACTOR. WEEDING SHALL BE DONE AT LEAST MONTHLY DURING 120-DAY PEP, TWICE DURING FIRST FOUR MONTHS OF MAINTENANCE, AND EVERY THREE MONTHS FOR REMAINDER OF MAINTENANCE. WEEDS SHALL BE PROPERLY DISPOSED OF OFF SITE. CONTRACTOR SHALL OBTAIN APPROVAL FROM RE AND PROJECT BIOLOGIST BEFORE HERBICIDE/PESTICIDE APPLICATION, AND APPLY HERBICIDE/PESTICIDE PER MANUFACTURER'S RECOMMENDATION AND STATE GUIDELINES. CONTRACTOR MUST POSSESS VALID STATE PESTICIDE AND/OR HERBICIDE LICENSE AT ALL TIMES.
- CONTRACTOR SHALL CONTROL WEEDS IDENTIFIED BY THE PROJECT BIOLOGIST BEFORE THEY EXCEED TWELVE INCHES (12") IN HEIGHT AND BEFORE THEY SET SEED, SO THAT NO WEED COVER EXCEEDS 5 PERCENT OF THE PROJECT SITE. DURING THE 120-DAY PEP, AREAS WHERE WEEDING CREATES IN EXCESS OF 25 SQUARE FEET OF BARE SOIL SHALL BE REPLANTED OR RESEEDED AND MAINTAINED BY CONTRACTOR. DURING THE 25-MONTH MAINTENANCE AND MONITORING PERIOD, AREAS WHERE WEEDING CREATES IN EXCESS OF 10 SQUARE FEET OF BARE SOIL SHALL BE RESEEDED AND MAINTAINED BY CONTRACTOR.

**RESTORATION AND REVEGETATION PLAN** **33 - D**

**BRIDGING DOCUMENTS FOR**

**FIRE STATION 50**

SE CORNER OF NOBEL DR. AND SHORELINE DR.

SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET 33 OF 33 SHEETS	WBS S-13021
APPROVED:	FOR CITY ENGINEER _____ DATE _____	SUBMITTED BY: JASON GRANI SENIOR ENGINEER
	PRINT NAME _____ RC# _____	CHECKED BY: JASIAH NEFF PROJECT MANAGER
DESCRIPTION	BY _____ APPROVED _____ DATE _____ FILMED _____	254-1707 CCS27 COORDINATE 6274-1897 CCS83 COORDINATE
CONTRACTOR	DATE STARTED _____ DATE COMPLETED _____	40304 -33 - D

**EXHIBIT B**

**CONSULTANT NARRATIVE BASIS OF DESIGN, INCLUDING MECHANICAL, ELECTRICAL,  
AND PLUMBING (MEP) & FIRE SPRINKLERS SYSTEM**

## **MECHANICAL, ELECTRICAL & PLUMBING PERFORMANCE REQUIREMENTS**

### **1.1 PERFORMANCE STANDARDS**

- A. The adequate performance of the completed improvements is of paramount importance. The completed project(s) shall meet or exceed all performance requirements identified in this RFP. The following are considered general minimum standards:
1. Basic, minimum code performance: this is the basis of minimum facility performance resultant from compliance with code and regulation prescribed requirements. The completed project shall comply with, or exceed, all local, State and federal codes and regulations.
  2. Leadership in Energy and Environmental Design (LEED): the completed facilities shall meet or exceed the required points for a Silver Certification for New Construction v4. Provide basis of how each point will be achieved, and the requisite energy modeling to demonstrate proposed energy performance.
  3. Requirements of the University Community Plan including, but not limited to, the use of underground electric utilities in lieu of overhead and conservation of water and energy resources.
  4. Fire Station Design and Construction Standards.
  5. City of San Diego Building Maintenance Guidelines.
- B. Ease of operation, maintenance and replacement of equipment is key. For the purposes of this project, the following are considered general minimum maintenance standards:
1. Personnel with a reasonable level of training shall be able to easily operate the facilities, equipment and systems.
  2. The various systems and equipment shall be selected with as few variations as possible to standardize the products.
  3. Train City's personnel in operation of equipment and systems.
  4. Minimize the amount of maintenance required.
  5. Make provisions for replacement of elements without undue disruption of building operation.
- C. Functional service life expectancy and durability of all work is vital. For the purposes of this project, all electrical and mechanical system selection decisions shall be based on Life Cycle Cost Analysis (LCCA) conducted over a 25 year time span, considering the Total Cost of Ownership (TCO).

## 1.2 GENERAL PERFORMANCE REQUIREMENTS

- A. Environmental Performance: These general environmental performance requirements describe the character, quality, or level of performance required for all improvements relative to construction assemblies and building systems:
1. Fire and Life Safety: provide code approved fire and life safety systems for site and building including emergency vehicle circulation, on-site hydrants as required, and building access for fire apparatus and emergency response vehicles.
  2. Acoustics: minimize noise intrusion from noise-source into occupied spaces, and on-site public, gathering environments.
    - a. Structure-borne sound and vibration: prevent transmission of perceptible sound and vibration from equipment that rotates, vibrates, or generates sound by isolating such equipment from superstructure or by isolating equipment support foundations from building foundations.
    - b. Mechanical: maintain the sound transmission characteristics of assemblies through which systems pass.
      1. All sounds of flushing and liquid running through pipes are prohibited outside of the rooms housing toilets and other fixtures, with the exception of when doors to those rooms are open.
      2. Equipment noises: noise level shall be below that which may be objectionable, based on occupancy of space.
      3. When systems are located within or pass through assemblies that perform sound isolation functions, consider the noise produced by the system itself as one of the external sound sources.
      4. Provide any necessary acoustical treatment to main supply and return duct as required to maintain acceptable NC levels. Sound mitigation components include sound attenuators, double wall lined ductwork, duct offsets, architectural soffits and/or insulation around ductwork (especially where main vertical supply and return ducts penetrate into acoustically sensitive areas).
- B. Thermal Comfort: indoor spaces shall maintain thermostat settings plus or minus 2 degrees and integrate controllability of systems within individual spaces.
- C. Solar Photovoltaic Self-Generation: Provide minimum 22 kW AC (Alternating Current) of solar photovoltaic power generation. System shall be grid connected and meet all San Diego Gas and Electric interconnection requirements.
- D. Utilities: conceal all utilities and services underground.
  - a. Provide the following as required:

1. Water and Drainage: a means of delivery of water to points of utilization; automatic heating and conditioning of domestic water; and unattended removal of water, rainwater, and liquid waste.
  2. HVAC: a controlled means of maintaining interior space comfort and air quality, including heating, cooling, ventilation and energy supply.
  3. Fire Protection: automatic fire detection, suppression, and warning, as well as manual fire-fighting equipment.
  4. Electrical Power: energy to operate all electrically operated devices, including those included under other services and those provided separately by the City. Provide Solar PV and address all permitting and interconnection requirements with the utility company.
  5. Artificial Lighting: illumination of spaces and tasks, both interior and exterior, independent of reliance on natural light.
  6. Telecommunications: services that include voice and data transmission and cable TV service.
  7. Other services: services that include integrated facility controls, surveillance and security controls, and a library theft detection system.
- b. Utility Sources and Outlets: connect utilities and services to and from:
1. Water source: Existing public utility.
  2. Sewage Disposal: Connect building sewer to the existing public sewage system.
  3. Rain Water Drainage Outlet: Comply with the County's Storm Water Pollution Prevention Plan (SWPPP) requirements, consistent with the Low Impact Development Handbook, including but not limited to on-site drainage retention.
  4. Electrical power source: Minimum 22 kW AC of power self-generation using solar photovoltaic with interconnection to public utility, San Diego Gas and Electric.
  5. Gas power source: Public Utility, San Diego Gas and Electric.
- E. Lighting: provide clear ingress, on-site, and egress hierarchical illumination, such that a user may be able to intuitively find their way at night, consistent with LEED criteria.
- a. Outdoor Spaces and Landscaped Areas: provide pathway and courtyard illumination.

- b. Interior Spaces: maximize the effectiveness of day lighting. Artificial lighting shall provide provided per uniform distribution.

### 1.3 PLUMBING

1. Plumbing (General): Design, engineer and install, test, start-up and balance a complete plumbing system for the entire building. The design shall allow for future expansion of systems and create flexible piping services that shall be easily adapted to changing City requirements. These requirements apply to all spaces.
2. Plumbing Special Equipment: Provide SCBA/Breathing Air Compressor. Standard of acceptance shall be equal to Bauer Compressors – Unicus III System. 6000 psig model UNIII/25H-E3 with electronic carbon monoxide monitor complete with calibration kit wired for alarm and shutdown. Provide two (2) additional ASME 6000 psig air storage cylinders with relief valve and mounting clamps. Provide UNIII remote fill hose connection including adjustable regulator for up to 6000 psig service, gauge and isolation valve connected to a cabinet enclosed hose reel with 100 feet rated for 6000 psig service. Provide two (2) year full factory warranty on the system. Provide five (5) year warranty on the compressors. Coordinate location and provide power and environmental temperature controls.
3. Plumbing Systems: The following plumbing systems shall be provided: domestic cold water, domestic hot and hot water return, sanitary waste and vent, areas subject to rainwater shall be provided with primary and secondary drainage systems, domestic hot water generators and pumps, natural gas system, and plumbing fixtures.
4. Domestic Water Systems: Domestic water service shall be brought to the building from the nearest point of connection to the public utility. The domestic water service shall be separate from the fire water service to the building. Meters, vaults and service size and location shall be as directed by the utility company.
  - a. The domestic water service shall be provided with a pressure reducing valve (PRV) assembly, and reduced pressure backflow prevention device assembly. The backflow assemblies shall contain protective cages
  - b. PRV shall limit water pressure inside the building to 70psi. 35psi shall be maintained at the furthest water closet. The residual pressure to sinks and lavatories shall be minimum 15psi.
  - c. A potable water system for cold water (CW) and hot water (HW) shall be looped through the building. All piping shall be copper type “L” Potable water shall be supplied at plumbing fixtures. All hot water pipes shall be insulated.
  - d. Water connection to mechanical equipment shall be through a reduced pressure backflow preventer.
  - e. A system of gas-fired instantaneous water heaters shall produce the hot water. A distribution piping system shall be provided, designed to insure hot water at point of use within maximum eight seconds, at full flow. Water velocity in domestic hot water piping shall not exceed 5 ft/sec.

- f. Minimum pipe size for public lavatories shall be ½ inch with a maximum flow of 0.5-gpm and ¾ inch for sinks and shower with a maximum flow of 2.0-gpm.
- g. As a minimum a Reduced Pressure Backflow Preventer shall be provided for:
  - 1. Domestic water service to the building (with protective cages)
  - 2. Irrigation systems (with protective cages)
  - 3. Water softening
  - 4. HVAC make-up water
- h. Piping design for back-to-back toilets shall require additional piping to provide separate isolation valves for each toilet room. Maintenance work in one toilet shall not require the other toilet to be unusable.
- i. Fixtures shall be provided with chromium-plated brass trim and individual Key angle stop valves. For deck-mounted lavs provide quarter-turn stop valves.
  - 1. Water closets shall be vitreous china siphon jet wall hung water conserving 1.0 gallon automatic infra-red type.
  - 2. Urinals shall be vitreous china siphon jet water conserving 0.125 gallon automatic infra-red type.
  - 3. Public lavatories shall be provided with 0.5 gpm flow restrictors using self-powered automatic faucets.
  - 4. Drinking fountains shall have integral or remote chiller units.
  - 5. Floor drains equipped with trap primer shall be provided at all restrooms, equipment rooms and wet locations.
  - 6. Service sinks and Kitchen sinks as required. Provide wall mounted stainless steel sink in the Wash Room area.
  - 7. Mop service floor basin shall be provided in the Wash Room with a 4'x5' clear access area.
  - 8. Hose bibs under lavatories, exterior, roof and within 20 feet of mechanical equipment. Provide a lockable outdoor hose bib in the refueling area.
- j. Natural Gas: Based on the building demand the natural gas service and meter shall be sized and located per the utility company. A pressure regulator shall reduce gas pressure to 8" water column. A California approved earthquake shut-off valve shall be provided in the incoming line.
  - 1. The natural gas piping system shall be sized in accordance with the California Plumbing Code, with a maximum pressure drop in the system of 0.5 inches water column, no diversity allowed. Underground pipes shall be "PE" type, above ground shall be black steel.

- k. Sanitary Waste and Vent: Sanitary waste and vent system shall be designed to provide connection to each plumbing fixture and future improvements. The sanitary drainpipe shall terminate with connection to the public sewer system. All underground pipes shall be ABS and all above ground pipes shall be cast iron.
  - 1. Provide floor drains in each public toilet room
  - 2. Provide one floor sink for each piece of mechanical equipment requiring drains.
  - 3. Provide indirect wastes where required for equipment.
- l. Storm Drainage System: The storm drainage system shall be designed with connections to the on-site storm drainage system. The overflow drains shall terminate at 12" maximum above grade outside building. The storm system shall be designed for a minimum 3-inch rainfall. All underground pipes shall be ABS and all above ground pipes shall be cast iron.
- m. Garage Drain and Oil Interceptor: Provide minimum two (2) drains, catch basins, in each bay located under the apparatus. Drains shall discharge into an oil separator as required by code.
- n. Compressed Air System: A compressor capable of 150 psi shall be provided and piped to designated areas of the Apparatus Room. Provide 1/4" quick connections.

#### **1.4 HEATING VENTILATION AND AIR CONDITIONING (HVAC)**

- 1. Heating, Ventilating and Air Conditioning (General): The outside design conditions shall be based on the Title 24.
- 2. Basic Requirements: The Design-Build Team shall provide detailed calculations for all systems prior to construction to confirm final sizes and equipment and system efficiencies and submit for approval by the City.
  - a. Quality: The system designs must be based on an overall level of quality and maintainability commensurate with the City's requirements. The designs shall incorporate proven technology and equipment.
  - b. HVAC Systems: The HVAC system for main buildings shall be one of the following or an approved equal:
    - 1. High Efficiency Variable Air Volume packaged air handling units
    - 2. Variable Refrigerant Flow System (VRF) with Dedicated Outdoor Air System.
    - 3. High Efficiency Split DX Systems

- c. Stipulate system type and provide anticipated operating costs. Provide adequate zoning to respond to solar exposures as well as use and occupancies. It should be noted that HVAC zoning and thermostat location shall reviewed and approved by the owner's representative.
  - d. Reliability/Redundancy: Designs are to utilize systems and products that are straightforward and can be manually "hand" operated, off the shelf readily available products, maintainable, and readily available spare parts and materials.
  - e. Incorporate reduced capacity operation when portions are down for maintenance or failure.
  - f. The system design shall provide flexibility in terms of operation and renovation. Ensure that all components and equipment are easily accessible for maintenance and replacement.
  - g. All refrigerants shall be non-CFC type such as R-410A
  - h. HVAC systems shall be designed to accommodate addition of future units
3. Thermostat Control: provide separate thermostat control for each zone. A maximum of three spaces (with two outside walls) shall be provided with a unit and a thermostat. The maximum interior area served by one variable air volume terminal unit or packaged unit and thermostat shall be 1,200 sf.
- a. Temperature control: The following temperatures shall be maintained during occupied periods:
    - i. All occupied rooms shall be maintained at 68-72 degrees F with no humidity control.
    - ii. Other areas (toilets, corridors, enclosed stairwells, etc.) indoor design temperatures shall be 76 degrees F for summer and 68 degrees F for winter.
    - iii. Mechanical Rooms shall be designed to maintain a maximum temperature of 95 degrees F.
    - iv. Electrical rooms shall be provided with exhaust fans that shall be enabled as required to maintain space temperature of 85 degrees or below.
    - v. Elevator machine rooms shall be maintained below a maximum temperature of 75 degrees F. or the manufacture's requirements, whichever is lower
    - vi. Telecommunication spaces shall be maintained below a maximum temperature of 72 degrees F, or the manufacture's requirements, whichever is lower
4. Internal Heat Gain: Use ASHRAE recommended sensible and latent loads based on occupant activities. Use lighting levels based on maximum installed watt/sf at 100%

loading. Allow miscellaneous equipment heat gains based on anticipated equipment. At minimum, an equipment load of 2.0 watts/sf shall be utilized for load calculations and equipment sizing.

5. Ventilation & Exhaust Requirements:
  - a. Ventilation rates, as a minimum, shall comply with Title-24 ventilation requirements.
  - b. Large variable occupancy areas such as Training Classroom, Gym and Day Room shall incorporate a demand control ventilation strategy to reduce the amount of outside air under low-occupancy situations, while still providing adequate ventilation.
  - c. Storage rooms/Telephone rooms: Four (4) air changes exhaust per hour minimum, unless room has electronic equipment.
  - d. Restrooms, janitor rooms, copy machine rooms, etc. shall be provided exhaust systems capable of providing a minimum of ten (10) air changes per hour controlled from central EMS. Exhaust fans shall not be operated in conjunction with lighting controls. Provide conditioned air as required such that these rooms are maintained 10% negative to adjacent spaces.
  - e. Kitchen: Provide a 60 inch long stainless steel commercial grade range hood extending minimum 6 inches beyond stove areas. Provide NFPA-96 compliant exhaust and associated fire suppression system, as required by Health Department and the City Plan Check.
  - f. Apparatus Room: Provide with passive and positive ventilation exhaust. Provide exhaust extraction system for the diesel exhaust. System shall be automatic and vehicle mounted to remove toxic diesel exhaust gases from fire trucks and ambulances. Provide pneumatic tail pipe with compressor.
6. Ducting Design Criteria: All ductwork shall be designed in accordance with SMACNA Design Manuals and ASHRAE Handbook fundamentals, Duct Design Chapter. The selection of the duct sizes should ensure that the duct pressure is minimized, in addition to selecting ducting at air velocities that do not generate noise (breakout or airside). The following shall be adhered to when designing the ducting systems:
  - a. Duct systems shall be designed to obtain the lowest cost-beneficial pressure loss.
  - b. Distribution system pressure losses shall be determined by total pressure.
  - c. Horizontal duct distribution shall be routed to avoid or minimize architecturally and/or structurally induced dynamic losses.
  - d. Sheet metal gauges shall be minimum 22 gauge and in accordance with CMC, not SMACNA. Construction of ductwork, except for gauge thickness, shall be in

accordance with SMACNA 1995 Second Edition for the appropriate duct pressure classification.

- e. Provide drive slip or equivalent flat seams for ducts exposed in the conditioned space. Longitudinal seams shall use Pittsburgh lock. On ducts over 48" wide, provide standard reinforcing on inside of duct. Flexible duct runs shall be limited to a maximum length of 6', and shall be a minimum of 4" larger than the flange connection to the grille, register or diffuser.
  - f. Supply and return air ducts shall be sized for friction losses between 0.08 to 0.15 inches WG/100 feet but not exceeding a velocity of 1,000 fpm. Note: Constant volume systems shall be designed for the low end of the friction range and variable volume systems to the high end of the range for the full cfm without diversity.
7. Piping Design Criteria: The layout and design of the heating hot water, chilled/condenser (if applicable) water systems shall follow principles outlined in the latest edition of the ASHRAE Systems and Equipment Handbook. Heating, hot water, chilled water and condenser water piping shall be sized based on the following:
- a. Total distribution system friction loss of 1.0 to 1.5 feet of water per 100 feet of installed piping at peak system flow rates.
  - b. Minimum pipe size of ¾ inch, except for gauge control piping.
  - c. Maximum velocity of 8 fps for 2-½ inch pipe size and larger.
  - d. Maximum velocity of 6 fps for 2-inch pipe size and smaller.
  - e. Maximum pressure drop of 1.5 ft/ 100 ft for any pipe size, and minimum velocity of 2 fps.
  - f. Utilize variable volume secondary pumping circuits wherever they prove to be cost effective.
  - g. Valves shall be provided for isolation of major areas, at inlet and outlet of each piece of equipment, on all branches serving more than one piece of equipment, for shutoff of mains on equipment drains and on each strainer. Drains shall be extended to an indirect waste receptor unless otherwise directed. Valves for drains and vents shall be ball type.
8. HVAC System Design Criteria:
- a. Dedicated cooling only systems, not served from a central plant shall be provided for electrical and data rooms as required to maintain the design conditions.
  - b. The building shall incorporate all specialized exhaust ventilation systems for mechanical and electrical rooms.

9. Packaged Rooftop Unit Design Option: Condenser fins shall be either copper or aluminum with a manufacturer's 10-year warranty on condenser coil, evaporator coil and fin replacement.
10. Air Filtration: Provide the following:
  - a. Filtration to comply with LEED requirements.
  - b. Provide fillers as per ASHRAE guidelines.
  - c. Filters shall be rated per ASHRAE 52 –76 Standard Test Method.
  - d. The filter housing and all-air handling components downstream shall not be internally lined with fibrous insulation.
  - e. The filter media shall be fabricated so that fibrous shedding does not exceed the levels prescribed by ASHRAE 52.
11. Energy Management: A modular direct digital control (DDC) system LANWORKS shall be installed to control an HVAC system that is fully integrated with Automated Logic EMS. All valve and damper actuators shall be electronic.
  - a. Sequences for ventilation control shall incorporate demand limiting in high-occupancy areas. Carbon monoxide detectors in the space shall be used to control ventilation rate to acceptable levels.
  - b. Where economizers are required per code, HVAC systems shall incorporate integrated differential enthalpy based economizer systems.
12. System Start Up, Testing, Balancing, and Adjusting: The work includes system start-up, test, adjust, and balance (TAB) of HVAC air and water distribution systems including equipment, ducts, and piping. Include sound testing and vibration recordings for HVAC equipment. The work shall be performed by an independent qualified agency accredited by American Air Balance Council (AABC).
13. Space Pressurization: No space shall be over pressurized to the point of affecting the operation of doors as required by the guidelines of Americans with Disabilities Act (ADA).

## **1.5 ELECTRICAL**

- 16.1 Code Compliance Requirements: All work to be compliant with the latest adopted editions of the following codes and standards:
  - a. California Electrical Code - CEC (NFPA 70)
  - b. California Building Code – CBC
- 16.2 Life-Cycle Requirements:
  - a. The design, engineering, material and products selected must allow for continuous use and operation of the facility for its programmed life cycle.
  - b. As a minimum level of performance the following elements shall be considered primary requirements and be included in the design and construction for all structures:
    1. Ease of electrical systems operation, including both users and maintenance personnel.
    2. Ease of isolating elements of a system to minimize impact to other components of the system in the event of a failure, maintenance, etc.
    3. Minimum 25% load growth factor over the facilities lifecycle.
    4. All materials and products to be commercially and readily available.

5. Selection of products to allow for industry standard, non-proprietary equipment.
  6. Specialized equipment that may/will require service for a 3<sup>rd</sup> party shall have a on-site response time of 8-hours or less from the first call.
- 16.3 Coordination: Provide coordination with all other disciplines to allow for an integrated and deliberate interface between the structure's electrical system and all other systems.
- 16.4 Electrical Requirements for California Energy Performance Standard Title 24 2016:
- a. Provide all completed Title 24 indoor and outdoor lighting compliance forms on project drawings as required.
- 16.5 Electrical Requirements for LEED Silver Qualification: Provide compliance with the LEED requirements to obtain credit for the project to qualify for LEED Silver rating.
- 16.6 Power General Requirements:
- a. Provide minimum 22 kW AC of solar photovoltaic power self-generation with interconnection to the utility grid.
  - b. The design of the power distribution system shall allow for a minimum 20% growth for all distribution equipment, including panel boards.
  - c. Neutral conductors may not be shared between different circuits.
  - d. All disconnect switches to be lockable "on" and "off".
  - e. All equipment to be fully bussed.
- 16.7 Site Electrical Service:
- a. Provide underground electrical service into the building. Provide service entrance facilities as required by SDG&E including handholes, primary underground ductbank, utility transformer pad and grounding, secondary ductbank and secondary metering switchboard. Coordinate with SDG&E for electrical service infrastructure requirements and project electrical load calculations per SDG&E requirements.
- 16.8 Main Secondary Switchboard:
- a. Provide circuit breaker switchboard for the electrical service entrance equipment inside a dedicated electrical room. The voltage of the switchboard shall be 208Y/120 volt, 3-phase, 4 wire and contain copper bussing.
  - b. All switchboard circuit breakers with 225A or greater frame size shall have an electronic trip function with interchangeable trip units.
  - c. Provide a minimum of 6X space for future circuit breakers per switchboard.
  - d. Provide service entrance rated transient voltage surge suppressor (TVSS) in a separate enclosure attached to switchboard.
  - e. Provide electronic meter in switchboard front with minimum measuring capacity of amps (per phase), volts (per phase), watts, vars, VA, THD-voltage, THD-current, and maximum/minimum values of voltage, current and power.
  - f. Provide viewing windows to allow for infrared scans without removing equipment covers.
  - g. Manufacturers: Cutler-Hammer, General Electric, Schneider Electric, or Siemens.
- 16.9 Panelboards:
- a. Provide distribution and branch circuit panelboards with bolt-on type breakers throughout to serve loads as required.
  - b. All circuit breakers on line side of lighting and appliance branch-circuit panelboards shall be fully rated.
  - c. All panelboards shall have main circuit breakers and copper bussing including a full size neutral bus..

- d. The minimum circuit breaker size is 20 amps, unless specifically required for a equipment connection.
  - e. The use of load centers is not permitted.
  - f. Provide a minimum of six (6) spare circuit breakers per lighting & appliance panelboard.
  - g. Panelboards shall not be located in public spaces.
  - h. ¾” conduit shall be provided to accessible ceiling for every three (3) spare circuit breakers or panel spaces in all flush mounted panels.
  - i. Manufacturers: Cutler-Hammer, General Electric, Schneider Electric, or Siemens.
- 16.10 Enclosed Circuit Breakers:
- a. Provide enclosed circuit breaker as required.
  - b. Manufacturers: Cutler-Hammer, General Electric, Schneider Electric, or Siemens.
- 16.11 Electrical Rooms:
- a. All electrical rooms to be laid out and sized to allow for working clearances as prescribed in the California Electrical Code (CEC).
  - b. Doors into electrical rooms are to be sized to allow for replacement of all equipment within the space.
  - c. Service entrance electrical room shall have door access from exterior of the building per SDG&E requirements.
- 16.12 Fault Protection: A short circuit study shall be completed prior to plan check submission. The study shall take into account available utility fault current contribution, motor contributions, and all distribution elements. The study shall include the analysis of line-to-line and line-to-ground faults. Provide settings for coordination of circuit breaker overcurrent devices to ensure maximum safety and reliability.
- a. All circuit breakers shall comply with CEC 110.9 and shall have the next highest standard AIC rating as follows:
    - 1. 10 kAIC for 208 Volts Equipment
    - 2. 42 kAIC for 208 Volts Equipment
- 16.13 Grounding and Bonding:
- a. Provide grounding electrode system in compliance with CEC requirements.
  - b. All grounding electrode conductors shall be installed in conduit for mechanical protection.
  - c. Provide Main Telecommunications Grounding Busbar (TMGB) in Telecommunication Room and connect to building main electrical equipment grounding bus. Size telecommunications bonding conductor in compliance with EIA/TIA 607-Commercial Building Grounding, Bonding Standard.
  - d. Provide a separate equipment-grounding conductor with all feeders and branch circuit phase conductors sized in accordance with CEC Table 250.122.
- 16.14 Conductors and Raceways: All conductors shall be enclosed within a raceway system, except as otherwise indicated. All raceways shall be designed and installed in compliance with the CEC and shall incorporate the following requirements:
- a. THHN/THWN stranded copper wire shall be used. Minimum wire size is #12 AWG for power wiring and #14AWG for control wire.
  - b. All raceways to be concealed unless otherwise noted or installed in an unfinished space.
  - c. Conduit fill rates shall not exceed 40%.
  - d. Minimum conduit size is ¾”.

- e. All EMT conduit fittings shall be steel compression style.
  - f. All conduits mounted below 10' shall be secured to the structure via the use of two-hole conduit straps.
  - g. E.M.T. conduit and Rigid Metal Conduit shall be used inside the building except for connections to motor and lighting fixtures where flexible metal conduit shall be used. Flexible metal conduit lengths shall not exceed 6'. The use of metalclad cable (MC) and armor cable (AC) shall not be permitted.
  - h. All enclosures, pull-boxes, vaults, etc to be permanently labeled based on its contents. (i.e. "POWER", "SIGNAL", etc.)
  - i. All underground pathways to be schedule 40 PVC unless otherwise required by franchise utility companies.
  - j. Wire Markers shall be provided on each conductor in each pull box and junction box. All cover plates shall be labeled with circuit number panel.
- 16.15 Points of Connection:
- a. The following information is provided as the preferred locations to interface with existing system campus systems.
    - 1. Power – Coordinate with SDG&E for point of connection. Provide electrical service infrastructure as required by SDG&E.
    - 2. Telecommunication – Coordinate with AT&T for point of connection. Provide service infrastructure as required by AT&T.
    - 3. Cable TV - Coordinate with Cox Communication or the local cable provider for the point of connection. Provide Cable infrastructure as required by the provider.
- 16.16 Generator Requirements:
- a. Provide diesel generator set sized for all design loads plus 20%. Generator set shall be not be sized smaller than 30 kW.
  - b. Genset shall be provided with a weatherproof and sound attenuating enclosure with a 48 hour fuel tank.
  - c. Genset shall have remote monitoring panel located in the office.
  - d. Genset shall comply with Federal, state, and local codes including APCD.
  - e. Provide automatic transfer switch which will start and stop with a timed delay and delayed transfer capability.
  - f. The generator shall provide stand-by power for the following:
    - 1. Overhead doors
    - 2. All communication equipment including communication room cooling equipment and phones
    - 3. Alert monitors with amplifier
    - 4. Kitchen appliances
    - 5. Selected lighting including all lighting for emergency lighting, apparatus floor lighting, and map area lighting. 25% of building interior and exterior lighting shall be included on stand-by.
    - 6. Fuel dispensing systems
    - 7. Various selected outlets
    - 8. Fire alarm system
    - 9. Selected outlets throughout the building with a minimum of one outlet per room.
    - 10. Exhaust extraction system
    - 11. Elevator
- 16.17 Elevator Requirements:
- a. Provide connection to elevator per CEC.

- b. Do not install any electrical equipment or conduit in elevator shaft except for elevator related equipment and circuiting.
  - c. Provide a light and receptacle at shaft pit.
- 16.18 Fire Alerting Systems:
- a. Fire Alerting Company US Digital will provide design requirements and must comply with SDFD's current standards and specifications.
  - b. Provide conduit and rough-in per US Digital plans.
  - c. The alerting system equipment to be installed by certified installer Berg Electric or equal.
- 16.19 Fuel System requirements:
- a. Provide a hazardous rated (for example: explosion-proof, intrinsically safe) electrical installation for fuel systems where required by NEC.
  - b. Provide emergency shut-offs around re-fueling area per NEC.
- 16.20 Equipment connections:
- a. Provide all connections to HVAC, plumbing, fueling systems, electric gates, apparatus doors, and other building equipment which requires permanent connection to power.
  - b. Each apparatus door shall have an electric eye and safety device to prevent contact with fire apparatus.
  - c. Apparatus doors shall be operated by provided push buttons located by each door and, a master control panel adjacent to the main apparatus floor door entry, and radio signal from a Linear Delta III controller.
- 16.21 Drop Cords shall be provided on the driver's side of each vehicle.
- 16.22 Outlets
- a. Outlets shall be provided a minimum of every 12' on walls in the apparatus room.
  - b. Provide electrical outlets on the stand-by power system in the watch room for two (2) computers, printers, fax machine and table grommets.
  - c. Provide GFI outlets in bathrooms and near sinks per CEC.
- 16.23 General Lighting Requirements:
- a. Lighting levels shall be designed in accordance with the recommendations of the Illuminating Engineers Society (IES), and the lighting power density shall be in accordance with California Title 24 Energy Code.
  - b. Fixture shall be placed to facilitate lifecycle maintenance and re-lamping of fixtures. If the lighting design will require a lift, scaffolding or other specialized equipment to access the fixture, provide remote ballasts.
  - c. All fixtures shall be seismically restraining as required by the CBC.
  - d. Night lighting systems shall be provided in hallways, restrooms, common areas, and apparatus floor.
  - e. Emergency lighting shall be provided throughout the building.
  - f. Minimum Illumination Performance Requirements: The minimum lighting levels shall be provided according to the IESNA handbook.
- 16.24 Uniformity Ratios: The lighting design shall provide for uniformity ratios of 4:1 or better for all task areas.
- 16.25 Lamps: The lamps selected for this project shall be limited to those listed below unless otherwise noted within this document. When possible the designer should minimize the number of lamp types. Low-pressure sodium sources shall not be utilized. Equivalent LED fixtures are encouraged to be chosen over other fixtures.

Source	Lamp	Wattages	Color Temperature (°k)/CRI
Fluorescent	T8	17, 32	4100, 82 CRI min
Fluorescent	CFQ	9, 18,26, 42	4100, 82 CRI min
Fluorescent	CFTT	13, 32, 42	4100, 82 CRI min
LED			

16.26 Fixtures: The following class of fixture shall be utilized for the spaces listed:

Space	Fixture	Source
Lobby/Watchroom	Architectural Downlight	LED
Apparatus Room	Industrial Strip	Fluorescent
Work Room	Industrial Strip	Fluorescent
Locker	direct/indirect, recessed	LED
Training Room	direct/indirect either recessed downlights or pendant	Fluorescent or LED
Gym	Recessed direct/indirect	LED
Day Room	Architectural Downlight with dimming	LED
Kitchen and Dining	Architectural downlight and recessed direct/indirect	LED
Sleeping Areas	Wall-mounted (above desk) and Architectural Downlight	LED
Bathroom	Wall mounted above sink and recessed downlight	Fluorescent or LED
Corridors	Architectural downlight and step light (for egress)	LED
Electric Room	Industrial Strip with wireguard	Fluorescent
Telecommunication Room	Recessed prismatic troffer	Fluorescent
Building Exterior	Exterior wall sconces, recessed downlights	Fluorescent or LED
Parking Lot/Site	Cutoff pole mounted fixture, square steel pole	Fluorescent or LED
Exterior path of travel	Vandal Proof (if mounted under 15' AFF)	LED

- a. Provide under cabinet lighting for all work surfaces below upper cabinets
- b. Provide lighting in all accessible crawl spaces.
- c. Provided fixtures between each bay with some remain on at all times while the remaining lights shall be capable of being switched on when the paging alert system activates.
- d. Provide motion sensors for Sleeping area lighting.
- e. Provide wall-mounted blue LED warning strobe above bay doors which flashes until overhead doors are fully opened.
- f. Provide red glass ‘jelly jar’ style luminaire at exterior entrance. Luminaire shall be operated by photocell.
- g. Provide two fixtures to illuminate the flag pole. These shall be controlled by photocell and over-ride switch. These fixtures shall not be installed in the ground.
- h. The use of bollards is not permitted.

- i. The use of outdoor step lights is not permitted.
  - j. Design site lighting to minimize risk of vandalism.
- 16.27 Exit Signs: Provide edge-lit type exit signs. Mount exit signs a minimum of 8' above finished floor. Minimize the use of pendant mounted exit signs.
- 16.28 Ballasts: Ballasts to be less than 10% total harmonic distortion.
- 16.29 Interior Lighting Controls:
- a. Provide digital lighting control panel for interior lighting including areas with occupancy sensors. Provide occupancy sensors only for multi-purpose room and adjoining spaces. All lighting controls shall comply with California 2013 Title 24 Energy Code.
  - b. Provide master low voltage light switch near main building entrance door.
  - c. Provide wall or ceiling mounted occupancy sensing devices in all rooms less than 200 square feet.
  - d. Wall switches to be rated no less than 15A.
  - e. Spaces that have audio/visual projection equipment, which includes the training room, shall be controlled to allow for a uniformed reduced light level for the observer seating and a low-lit area on the projection surface.
- 16.30 Emergency Lighting & Power:
- a. Provide battery back-up for all code required emergency lighting. A central battery and inverter system may supply all emergency lighting located in the electrical room. Provide minimum 25% spare capacity if provided.
  - b. Provide power and wiring for emergency lighting in separate raceways throughout the facility.
  - c. Emergency lighting shall be on generator stand-by power.
- 16.31 Site Lighting:
- a. Provide an exterior site lighting system including, but not necessarily limited to, area light for facility, including underground distribution, handholes, grounding, poles, fixtures and controls as required for a complete and usable system.
- 16.32 Exterior Lighting Fixtures and Controls:
- a. Provide a metal halide type light fixtures, complete with lamps.
  - b. Provide an automatic lighting control system for exterior lighting fixtures utilizing mechanically-held lighting contractors, time switches, and photocell switches such that lighting will automatically turn "ON" at dusk and turn "OFF" at pre-set time or sunrise.
  - c. Coordinate outdoor light locations with Landscape Planting Plan tree locations.
  - d. Coordinate locations of the outdoor lights and irrigation sprinkler spray system with the Landscape Architect.
- 16.33 Receptacles: 15-amp minimum – NEMA 15R, except for Telecommunications Room use 20-amp NEMA 20R. Ground pin down. Faceplates shall be stainless steel.
- 16.34 Motors: Provide disconnect for all equipment. Coordinate with other disciplines.
- 16.35 Telecommunications General Requirements
- a. General: The structures cable plant shall be installed in compliance with the following standards and all manufactures requirements.
    1. EIA/TIA 568b - Commercial Building Telecommunications Cabling Standard
    2. EIA/TIA 569 - Commercial Building Standard For Telecommunications Pathways And Spaces
    3. EIA/TIA 606 - Administration Standard For The Commercial Telecommunications Infrastructure
    4. EIA/TIA 607 - Commercial Building Grounding, Bonding Standard

16.36 Telecommunication Room:

- a. Provide a minimum of one (1) Telecommunication Room (TR). The TR should be centrally located to minimize the maximum cable lengths and help facilitate any move, add or changes (MACS) throughout the structures lifecycle.
- b. The TR shall also serve as the entrance facility; all signal/low voltage conduits from the exterior shall enter into this space.
- c. Telecommunications rooms are defined as any MDF/IDF containing active electronic components.
- d. Telecommunications rooms shall have direct access to the interior hallway or corridor and should not be shared with other building services, such as Electrical (i.e. electrical distribution panels or transformers) or Custodial Services (i.e. cleaning carts, solvents, buffers). The sharing of the room with other low voltage providers such as building monitoring, alarms or CATV is acceptable provided each entity has a specific designated area reserved for their use.
- e. Telecommunications rooms shall not contain any type of sink, or be used as a custodial or general storage areas (books, furniture, etc.).
- f. They will be sized to accommodate the insertion, servicing and removal of all necessary components, electronics, termination equipment or other network related items. They should be no smaller than 50 square feet in total floor space, no less than 5 feet in depth and no less than 10 feet in vertical clearance.
- g. Floors in telecommunications rooms shall be tile. Carpeted floors are unacceptable due to the potential for static electricity and the subsequent threat of damage to communications equipment.
- h. Three entire walls shall be covered with a minimum of 8 ft. X 4 ft. X ¾ in., AC grade plywood. The plywood should be fire-related with at least two coats of fire-resistant light colored paint before any communications equipment is installed.
- i. The entrance will have a minimum of a single 36" x 80" lockable door. Interior doors should not have a sill installed for the ease of equipment delivery and removal.
- j. A minimum of four (4) dedicated 110VAC, 20 amp electrical circuits will be supplied with quad NEMA 5-20R outlets. These outlets will be located on or adjacent to the communications equipment rack. Convenience 110VAC, 15 amp dedicated duplex outlets will be spaced at 4 foot intervals around the perimeter of all walls.
- k. The telecommunications room shall be serviced by no less than (2) 4" sleeves for voice and data communications interior cabling. Each 4" sleeve should have a fill of <60%
- l. A minimum of (2) 4" conduits are recommended for entrance cables when placing a new structure. These conduits will support copper and fiber entrance facilities for AT&T. See Entrance Cable Support Structure section.
- m. Fire stopping is required for all penetrations. The barrier material shall be installed so the final penetration has the same fire rating as the original wall/floor.
- n. All telecommunication rooms will be equipped with a grounding bus bar that is tied back to the building's ground. The grounding conductor will be attached to an approved electrode per CEC standards, as referenced in TIA 607.
- o. All telecommunications rooms and the enclosed support structure and equipment are required to be grounded.

16.37 Telecommunication Grounding and Bonding:

- a. All telecommunications rooms should be grounded to a single point, building ground in accordance with ANSI/J-STD-607.
  - b. A solid copper bus bar with insulated standoffs will be installed in the entrance facility or telecommunications room.
  - c. The bus bar will be connected to the building ground system in such a manner so that it meets the requirements set forth in TIA/EIA-607 (Commercial Building Grounding and Bonding Requirements for Telecommunications) as well as any additional codes in Articles (250 – Grounding) and (800 – Communications Systems) of the NEC 2014. The telecommunications rooms grounding bus bar will attach to the specified grounding system by a wire that is a minimum of #6 solid or stranded copper wire with a green insulation jacket.
  - d. All telecommunication equipment racks, cabinets, ladders and associated hardware shall be bonded to the grounding backbone through a 6 gauge copper cable with a green insulated jacket and an approved physical connector.
- 16.38 Telecommunication Entrance Cable Support Structure:
- a. Any entrance communications cabling will be placed in a non-metallic 4” conduit located in the communication telecommunications room. A minimum of (2) 4” conduits are recommended when placing a new structure.
  - b. Each conduit will have a pull rope secured at both ends and capped to avoid foreign debris from entering the duct before use.
  - c. Conduits will need to be extended to the appropriate property line in accordance to the instructions provided by the local AT&T Facility Engineer.
- 16.39 Telecommunication Interior Cable Support Structure:
- a. All communications pathways shall be installed in conduit via a clear and unimpeded path back to the communications equipment room.
  - b. Each telecommunication pathway will be dedicated end-to-end and not “chained.”
  - c. The installation of all cabling, regardless of type, will use common pathway routes.
  - d. A pull string should be provided for each pathway to allow for future installation of telecommunications cabling. Telecommunications cabling is not in contract.
  - e. Vertical wall drops within a fire rated wall must be supported in a fire rated conduit structure terminated in an electrical box with a single gang box.
  - f. Telecommunication outlet boxes shall be sized a minimum of 2 ½” x 4” for ¾” conduit, 4”x4” for 1” conduit.
  - g. Total footage for any single wire run will not exceed two hundred ninety five feet (90 meters).
  - h. Conduits for telecommunications cables shall be sized per the following chart:
  - i. Conduit Fill Chart – Cat6 Wiring

Trade Size	Maximum Cables
¾”	6
1”	10
1 ¼”	19
1 ½”	25
2”	42
2 ½”	60
3”	93
4”	161

- j. If a conduit requires more than two 90-degree bends, then a junction box must be provided between the sections.
  - k. When required, install all junction boxes in easily accessible locations. Junction boxes are not to be used in lieu of a bend. All pulls thru a pull box are to be straight with no turns.
  - l. Align conduits that enter the pull box from opposite ends with each other.
  - m. The length of a pull box is to be a minimum of 12 times the diameter of the largest conduit.
  - n. All conduits should have a pull rope/mule tape placed and secured at each end and capped to avoid foreign debris from entering the duct before use. Jet String or blue string, is acceptable for use in conduits up to 1 inch.
- 16.33 Labeling: Provide standards compliant labeling scheme. Submit sample of labeling scheme to owner's representative for approval prior to proceeding.
- 16.34 Provide two 1" conduits from telecommunication room to handhole at edge of property line for future traffic control connection
- 16.35 Communication and paging system requirements:
- a. A designated Fire Station Control System alert paging system, with speakers located to be audible throughout the entire station and exterior areas shall be provided.
  - b. Paging system shall be capable of being turned on/off in designated rooms.
  - c. Provide speakers in all rooms including bathrooms.
  - d. Provide weatherproof speakers at all sides of the building exterior.
  - e. Provide home runs from each speaker directly to the communication room. Home runs shall be provided in conduit.
  - f. Provide an autodial 9-1-1 phone in an ADA approved red weather box located near the exterior public entrance.
  - g. Door bells shall be interfaced with the station alerting system that rings all areas of the building. Door bells shall be provided at the front and rear doors.
- 16.36 Electronic Safety and Security (ESS) Summary of Work:
- a. The work includes all labor, materials and appliances required to furnish and install the security alarm systems, fire alarm systems, and surveillance system equipment. All attachments, connections, signal boosters, network processors, network distributors, line drivers and miscellaneous hardware needed to allow the system to communicate with the City of San Diego System (Continental Instruments Corporation CA2000), without interference with the existing system network, shall be the responsibility of the contractor. Electronic Security will be responsible for (Continental Instruments Corporation CA2000) and all polling lines from 5555 Overland Ave. San Diego Bldg.6 Electronic Security office to new site. The contractor will provide 1 LANTRONIX # UDS-100.
  - b. All components required for security alarm systems, surveillance systems, and fire alarm systems listed below to match existing City installations. There is NO KNOWN EQUAL.
  - c. Provide electrical operated keypad and remote switch for rolling gate to automatically to open using Delta III control receiver.
  - d. Provide camera system to operate with motion sensing. Camera system shall monitor building entrances, the entire apparatus room, and parking areas.
  - e. Symbols used on submittal and record drawings shall be consistent with the ES standard as follows:

**Security Alarm System:**

AC	Alarm Controller	DSC 4020
CPIR	Ceiling Mounted Motion Detector	Rokonet 150L
DS	Door Contact	
EDS	Security EN/EX Door	
KP	Security Keypad	DSC 4501
KS	Security Key Switch	
RUD	Security Roll-up Door Switch	
WPIR	Wall Mounted Motion Detector	Rokonet RK115FC
SN	Security Alarm Siren	Amseco SSX51
TA	Security Temperature Alarm	Temp Alert #TA-3HLD
PE	Security Photoelectric Beam	

**Surveillance System (CCTV):**

MP	Surveillance Multiplexor	
M9B	Surveillance Single Monitor 9" Black and White	
M13B	Surveillance Single Monitor 13" Black and White	
M9C	Surveillance Single Monitor 9" Color	
M19C	Surveillance Single Monitor 19" Color	
TLR	Surveillance Time Lapse Recorder	
BWC	Surveillance Camera Black and White	
CC	Surveillance Camera Color	
CBW	Surveillance Camera Color & Black and White	
CWM	Surveillance Camera Wall Mounted	
CCM	Surveillance Camera Ceiling Mounted	

**Fire Alarm System:**

FAC	Fire Alarm Control	
FPS	Fire Pull Station	
FS	Fire ADA Approved Sounder	
FSS	Fire ADA Approved Sounder and Strobe	
FSB	Fire ADA Approved Strobe	
FHD	Fire Heat Detector	
FSD	Fire Photoelectric Smoke Detector	
FID	Fire Ionization Smoke Detector	
FWF	Fire Water flow Detector	
FPI	Fire Post Indicator	
FDD	Fire Duct Smoke Detector	
FDH	Fire Door Holder	

16.37 Power Supplies and Batteries:

- a. SMP5PMCTXX Battery 12v, 18 ha.
- b. All provisions shall be deemed mandatory except as expressly indicated as optional by the words "may" or "option".

16.38 Qualification of ESS Contractor:

The security alarm system contractor must be licensing by the State of California Department of Consumer Affairs, Bureau of Security and Investigative Services. A (ACO) license is required. The card access contractor must be licensed with a C7 or C10 license. The fire alarm contractor must be licensed with a C10 license. All contractors must be San Diego City based.

16.39 ESS Submittals

- a. The contractor shall submit shop drawings for review and approval by the S&E Specialist through the project Manager, prior to installation of any phase of work.

Submittals shall include complete details of proposed equipment locations and layout, wiring schematics, conduit layouts, network connections and system interfaces. Shop drawings shall be required on each phase of a project. The S&E Specialist shall determine whether the California State Fire Marshal or local Fire Marshal will approve shop drawings.

- b. Submittals for substitutions and the approval of substitutions will be made by the S&E Specialist through the Project Manager. The S&E Specialist will make acceptance of substitutions in writing.
- c. Within fifteen (15) days after award of contractor, the contractor shall submit to the project Manager Copies of the following.
  1. Submit data sheets on sensors, wiring diagrams and any related accessories.
  2. Provide operating instructions, maintenance manuals and warranty information to owner.
  3. Provide as-built drawings of sensor system wiring and actual locations of the installation details.
- d. Any changes in design or layout, which is in conflict with attached plans, shall be discussed with and agreed upon with Project Manager and the S&E Specialist prior to installation.
- e. In case of "OR EQUAL" submissions, contractor may offer any material, process or article, which shall be substantially equal or better in every respect to that specified, within three (3) days after award of contract. However, if material, process or article offered by the contractor is not, in the opinion of the Project Manager, S&E Specialist substantially equal or better in every respect to that specified, and then contractor must furnish the material, process or article specified. Burden of proof as to equality of material, process or article shall rest with the contractor. In the event that contractor furnishes material, process or article more expensive than that specified, the difference of cost shall be borne by the contractor.

#### 16.40 ESS Warranty

- a. The contractor shall warranty all parts and labor for a period of one (1) year from data of acceptance by the Project manager and S&E Specialist.
- b. The contractor shall provide warranty service twenty-four (24) hours a day for the first thirty (30) days after acceptance.
- c. The contractor shall then provide for a response within the next twenty-four (24) hours, Monday thru Friday, after notification of a warranty problem, for the remainder of the one (1) year warranty period.
- d. The contractor shall be able to perform any and all repairs to the system within twenty-four (24) hours, after notification of a warranty problem. This must be demonstrated to the satisfaction of the S&E Specialist prior to the acceptance of any work.

#### 16.41 ESS General

- a. Where a particular manufacturer's product is specified, it is not intended to discriminate against other manufacturer's which are equal in quality of material, workmanship, appearance and function to those specified. Rather, it is intended to establish and indicate the desired standard of quality. If any tests are required to determine the equality of any substitutes, such tests shall be made by an independent and approved laboratory and all expenses are to be incurred by the contractor. Proposed items are to be submitted with the bid and shall be a basis for the award of the contract. THERE IS NO KNOWN EQUAL.

- b. All materials and equipment shall bear evidence of the Underwriter's Laboratories Inc. Label (UL) when these standards are required and such product listing is available, or approval of other nationally recognized independent testing organizations adequately equipped and competent to perform such services.

#### 16.42 ESS Conduit Systems

- a. All conduit, fittings boxes and related items shall conform to the specifications set forth in the N.E.C. All conduit sizes shall be no smaller than ½", unless otherwise noted.
- b. Conduit runs shall allow for 30% additional capacity. Conduit runs with over 50% capacity shall have a "pull cord" installed for future use.

#### 16.43 ESS Wire and Cable

- a. All system wiring shall be shielded stranded copper cable, Plenum. Signal cable size shall be a minimum 22 gauges. Power cables (for electric locks and exit devices cable size shall be a minimum 18 gauge, but shall be increased as required to limit DC voltage drop to 5% at maximum current draw)
- b. If prior approval is obtained from the S&E Specialist, low voltage power and signal cable may be run in the same conduit, but not in the same-shielded cable. Power cabling of all 120 VAC locks and controls must be run in a separate grounded conduit.
- c. Polling line RS422 use 18-4 twisted pair with Duo foil, stranded conductors, plenum, and each pair individually Duo foil shielded. ATLAS 296-R1-18-16T-2J or Ace-184b2TP2SHLD
- d. Polling line RS422 in underground conduit use 18-4 twisted pair with Duo foil, stranded conductors, plenum, each pair individually Duo foil shielded, with overall direct burial jacket.  
MANHATTAN CDT # 999-MAN-8708020-0 or ACE # 999-MAN-M874-8040
- e. Prox reader 12VDC, 18-6 stranded conductors, Duo foil shielded, plenum. Limit DC voltage drop to 5% at maximum current draw. ATLAS 1725R1-18-7-6SJNTR or ACE-P18-6BSHLD
- h. Loop wire use 22-2 stranded jacketed and plenum. ATLAS 1725R1-22-7-2SNTR or ACE-P22-2B
- i. Siren wire use 18-2 shielded with Duo foil and stranded jacketed and plenum. Limit DC voltage drop to 5% at maximum current draw.
- j. CCTV Systems use ATLAS RG59/U 95% BRAID COAX BLACK and plenum or ACE-RG59U955

#### 16.44 ESS System Wiring

- a. All cables shall be installed with no splicing. There should never be a reason to splice a wire or a cable if it is installed correctly. If a mistake is made it is up to the S&E Specialist to make the decision to replace or splice the wire. If the decision is to splice the cable and the cable is shielded. Contractor must solder all wires separately and insulate each wire with heat shrink tubing. Stagger all splices. The outside foil shield needs to be replaced with a new piece of foil shielding and wrap tightly. The drain wire needs to be reconnected and the outside jacket replaced with heat shrinks tubing. There shall be no splices like the above made within any equipment panel.
- b. Cable shall be sized and routed to maintain voltage drop within acceptable limits. The contractor shall ensure and verify maximum allowable voltage drop for each terminal device with the manufacturer.

#### 16.45 ESS Cable Routing

- a. Communication, reader and alarm cables may be run in an open ceiling above the T-bar but not laying on ceiling tile or T-bar Structures.

#### 16.46 ESS Test and Quality Assurance Inspection

- a. The system shall be tested, calibrated, adjusted, and programmed as an integrated system. All components and the system shall operate to the satisfaction of the S&E Specialist.
- b. When the system is complete, the Contractor shall do a 100% test of all components of the system. Each device shall be tested for supervision and alarming capability. The system shall be tested for operation on battery power. Testing shall be by, or under the direct supervision of the Contractor's factory trained installer. S&E Specialist and Project Manager shall be notified of the testing date and time at least seven days in advance.
- c. The Contractor shall submit certification that the entire system is installed and operating properly and in conformance with plans, specifications, and S&E Specialist. Testing shall be complete and certification prepared before final inspection.
- d. All equipment herein specified shall be inspected by the manufacturer's quality assurance inspector and any defects corrected before delivery.
- e. The Owner, at its option, may verify the inspections or re-inspect any item. Inspections shall include examination for quality of workmanship, neatness, parts and wiring identification, conformance to building codes, and compliance with system specifications and shop drawings. The Owner reserves the right to reject materials and workmanship found unacceptable during inspections.
- f. The Owner's, S&E Specialist or Project Manager or his authorized representative shall have the right at all times to inspect or otherwise evaluate the work performed or being performed and the premises in which the work is being performed.

#### 16.47 ESS Training

- a. A training program for the S&E Specialist shall be conducted for not less than 2 hours, at a time and location designated by the S&E Specialist. 2 additional sets of bound manuals shall be delivered at this time. Manuals shall contain operating instructions, wiring diagrams, parts lists with part numbers, and local suppliers and service information. Information needed for troubleshooting and maintenance shall be included.

# **SAN DIEGO FIRE STATION 50 FIRE SPRINKLER SYSTEM BASIS OF DESIGN NARRATIVE**

## **1. SYSTEM DESCRIPTION**

- A. Furnish complete wet-pipe fire sprinkler system, including all occupied compartments and all combustibile concealed spaces requiring sprinkler protection based on construction type and code substitutions, if any. This section covers installation from the point of service connection to the public water system, up to and including the system riser, mains, branches, sprinklers, valves, fittings, hangers, seismic bracing, accessories, etc.

## **2. GENERAL NEW CONSTRUCTION REQUIREMENTS**

- A. Provide complete building fire sprinkler system in place, tested and approved, as specified and as required for a complete and correct installation. All equipment shall be installed per manufacturer's listings and recommendations, referenced codes and standards and the requirements of City of San Diego.
- B. The following design requirements establish the intent of the construction documents and work of the contractor in completion of the installation:
  - 1. Furnish design, materials, installation, start-up, testing, and commissioning of complete and operational fire sprinkler system and related components, including underground fire service transition to the building system.
  - 2. Furnish detailed hydraulic calculations for all applicable hazard groups prior to construction to substantiate final pipe sizes, sprinkler discharge densities and system configuration and submit for approval by DSA and all other authorities having jurisdiction.
  - 3. Furnish load calculations, product specifications and applicable details of construction for all seismic bracing and restraints at building system main and branch piping as required.
  - 4. Furnish material data sheet submittals for all equipment proposed for installation. Include and identify minimum levels of quality, materials and workmanship in accordance with accepted good practices and manufacturers' recommendations.
  - 5. Furnish detailed calculations and details for all thrust blocks and mechanical restraints for underground mains.
  - 6. Furnish product specifications and applicable details of construction for means of resisting corrosion at all ferrous underground pipe and fittings.
  - 7. The project is to be designed using all available means and methods of construction to assure that the fire sprinkler systems are protected from physical damage and vandalism. Piping shall be of minimum scheduled wall thicknesses to enhance longevity and resistance to corrosion due to water chemistry and microbiological causes.

8. The project shall be designed using the most stringent and latest (or as specifically adopted) editions of the codes, standards and guidelines published by the following organizations as applicable for this Project:
  - a. California Building and Fire Codes, 2013 Ed.
  - b. National Fire Protection Assoc. (NFPA) Standard 13, 2013 Ed.
  - c. National Fire Protection Assoc. (NFPA) Standard 24, 2013 Ed.
  - d. National Fire Protection Assoc. (NFPA) Standard 72, 2013 Ed.
  - e. San Diego Development Services Department requirements.
  - f. San Diego Water Utilities Department requirements.
  - g. San Diego Fire Department requirements.
  - h. Underwriters' Laboratories Approval Listing Guide.
  - i. FM Global Product Approval Guide.
  - j. Applicable ICC Evaluation Service Reports.

### **3. UNDERGROUND FIRE SERVICE MAIN DESIGN CRITERIA**

- A. The building fire sprinkler system will be supplied by a new fire service lateral to be connected to the public main in Shoreline Drive. The work includes wet-tap connection to the public main, all trenching and repaving and reconstruction of curb and sidewalk to City of San Diego standards.
- B. Furnish and install approved backflow prevention assembly with Fire Department Connection (FDC) per applicable requirements of San Diego Water Utilities Department and San Diego Fire Department. Backflow shall be Reduced Pressure Principle Assembly (RPDA), with indicating control valves listed for fire protection systems. All valves shall be supervised per CBC and CFC requirements.
- C. On-site piping shall be C-900 PVC, DR18 (pressure class 235) or C151 Ductile Iron, as required, for horizontal and vertical installation. Fittings shall be Class 250, ductile iron, flanged, push-on or mechanical joint as required. Furnish thrust restraint as required at all joints and changes of direction/elevation.
- D. Building service entries shall be accomplished by installation of approved/listed one-piece riser sweep in accordance with CBC and state amendments to NFPA 13 and 24. No mechanical joints shall be located under building.

### **4. BUILDING SYSTEM PIPING**

- A. Furnish black steel, schedule 10 and 40. Light-wall piping shall not be used for threaded joints. All piping shall be ASTM A-53/135/795 parent metal specification. Fittings shall be listed for fire sprinkler system use, and shall be appropriate for the type of piping and application. See Specification Section 21 13 13, "Wet-Pipe Sprinkler System" and NFPA 13, approved materials.

### **5. FIRE SPRINKLERS**

- A. Sprinklers shall be as required for occupancy and hazard group. Quick-response sprinklers shall be used throughout the facility.
- B. Sprinklers shall be hydraulically calculated to discharge the minimum required flow and density in accordance with manufacturers' listings. Sprinkler spacing shall be as appropriate for hazard group and in accordance with NFPA 13.

- C. All areas with suspended tile ceilings shall be protected with semi-recessed sprinklers. All areas with hard gypsum board ceilings shall be furnished with fully concealed pendent sprinklers. All other areas shall be furnished with quick-response upright spray sprinklers.
- D. Where subject to physical damage, sprinklers shall be adequately protected as best as is reasonably possible.

## **6. VALVES AND APPURTENANCES**

- A. All valves shall be U.L. listed and/or FM Global approved for fire sprinkler service, except where such listing does not apply. All valves controlling fire sprinkler water supplies shall be furnished with U.L. and California State Fire Marshal Listed supervisory tamper switches. Check valves shall be installed where required and listed for fire sprinkler service.
- B. Test and drain valves shall be installed and arranged to discharge into approved sanitary sewer system receptors. Combined test and drain assemblies will be accepted, pending approval of all authorities having jurisdiction. Pressure gauges and other accessories shall be as required.
- C. All valves requiring supervision shall be furnished with supervisory switches listed by U.L. and California State Fire Marshal. Valves shall clearly be marked as to whether they are normally open or normally closed in service.

## **7. HANGERS AND BRACING**

- A. Furnish complete support for all piping and protection against earthquakes. Seismic bracing shall be calculated with building seismic force loads as determined by the project Structural Engineer. Hangers shall be as required by NFPA 13 and all authorities having jurisdiction. All hanger materials used shall be U.L. listed and/or FM Global approved. All anchorage shall be identified by its ICC-ESR number.
- B. Designs for non-listed or shop-fabricated supports shall be certified, signed and sealed by a registered structural engineer.
- C. All seismic bracing shall be in conformance with NFPA and ASCE requirements. Furnish manufacturer's documentation of listing and load bearing values. If applicable, anchorage shall be identified by its ICC-ESR number.

## **8. PROTECTION OF PIPING**

- A. Wherever possible, all piping shall be concealed behind ceilings or other building construction features. Where piping cannot be concealed, it shall be installed so that it is as well protected and inaccessible as possible.

## **9. ALARM SYSTEM INTERCONNECTION**

- A. Fire sprinkler system shall be furnished with all electronic signaling devices as required to notify the main fire alarm control panel of water flow and supervisory alarms. Furnish water flow detector for the main riser and tamper switches at all valves controlling fire protection water supplies. Wiring of all alarm system components shall be undertaken by others as part of the fire alarm system scope.

- B. Furnish an audible exterior alarm bell, to be triggered by the water flow device building. Alarm bell shall be placed on the address side of the building so as to be as visible as possible to pedestrians on campus and passersby in the right-of-way.
- C. Activation of any fire sprinkler system alarm device shall also activate the building fire alarm system, in accordance with CBC 903.4.2 and Section 907.
- D. All alarm components shall be listed by U.L. and California State Fire Marshal.

END OF CHAPTER

## **EXHIBIT C**

### **FIRE STATIONS AND FACILITIES DESIGN AND CONSTRUCTION STANDARDS**



THE CITY OF SAN DIEGO

SAN DIEGO FIRE-RESCUE DEPARTMENT

FIRE STATIONS AND FACILITIES  
DESIGN AND CONSTRUCTION STANDARDS

FIRE STATION **50 (University City)**

**Southeast Corner of Nobel & Shoreline Drive**

This document provides as guidelines only. Drawings and specifications developed for design and construction are subject to final review and approval by Fire-Rescue Department's Logistics-Facilities Division. These standards are subject to change updates to comply with SDFD's latest operational requirements.

For Questions, contact: Michelle Abella-Shon @ [mshon@sandiego.gov](mailto:mshon@sandiego.gov)  
or (858) 573-1362

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## TABLE OF CONTENTS

	PAGE
A. GENERAL INFORMATION .....	3
B. FIRE STATION – INTERIOR.....	5
C. FIRE STATION – EXTERIOR.....	7
D. APPARATUS AREA.....	12
E. SPECIALIZED AREAS/ROOM.....	15
F. FIRE STATION LIVING AREAS.....	17
G. SLEEPING AREAS.....	21
H. BATHROOMS.....	22
I. EXERCISE / PHYSICAL CONDITIONING AREA.....	23
J. STORAGE ROOMS.....	23
K. PATIO .....	23
L. FUEL DISPENSING SYSTEM.....	23
M. STAND-BY GENERATOR.....	24
N. GENERAL PLUMBING.....	24
O. GENERAL ELECTRICAL.....	25
P. TRASH ENCLOSURE.....	27
Q. ADA.....	27
R. TEMPORARY DISPLACEMENT REQUIREMENTS.....	28
S. CAMERA MONITORING SYSTEM.....	29
T. FURNITURE FIXTURES & EQUIPMENT.....	29

U. HAZMAT STATIONS.....30  
V. STATION ALERTING & COMMUNICATION.....30

**EXHIBITS**

- 1. Station Alerting Current Standards Specifications

**ATTACHMENTS**

- I. Dormitory locker Specification
- II. Surge protection building system
- III. Breathing air system compressor
- IV. Air compressor
- V. Exhaust Extraction system
- VI. Above ground fuel tank
- VII. Overlay hinges

## FIRE STATION DESIGN AND CONSTRUCTION STANDARDS

### A. GENERAL INFORMATION

The following information has been prepared for fire station design requirements for San Diego Fire-Rescue Department. These are presented as minimum requirements for Fire Stations, and specialty stations will have additional requirements. The requirements will be reviewed at initial design meetings and through-out design development, schematic design and so forth...

Fire-Rescue typically utilizes two square footage designs; 9,000 and 10,500. This can at times vary based upon our needs in a particular area but serve as our baseline.

A 9,000 square foot station would consist of a 2-bay apparatus floor, and accommodate a fire engine, ambulance or battalion chief officer. This would mean five to six personnel.

The 10,500 square foot station would consist of a 3-bay apparatus floor, and in addition to the above adds a truck company and an additional four firefighters. A total of nine to eleven personnel could man the station.

Many influences play into the actual design and layout of a fire station, especially a replacement of an existing structure. These include the amount of available land, vehicle ingress and egress, the communities design desires, etc. Our preferred design is single story, but often we are constrained by the existing lots we occupy. When replacing a fire station in the the densely populated areas of the city, we often do not have the ability to build a single story structure, and therefore look to creative design that may result in a two or three story facility.

We work very closely with the designers to ensure our needs are met in every fire station design. This document ensures we incorporate as much standardization as we can between projects.

Plans shall be prepared showing all details and notes required to provide the contractor with sufficient clarification and information to construct the project to the intended design. Specifications shall be in CSI format with all referenced standards defined in a supplemental manual and presented to San Diego Fire-Rescue Department.

The design of the fire station shall consider the use of Green Building Technology in accordance with the City of San Diego adapting the Silver LEED Standard,

Leadership in Energy and Environmental Design, for facilities more than 5000 sq. feet. The design shall meet Title 24, ADA and ADAAG access standards. Clarification for design issues regarding ADAAG will be provided by the City as required. A statement shall be made on the cover of the plans and specifications noting that this is an essential service building and that the contractor is responsible for understanding and meet all specific requirements and codes that apply.

Any items specified in this outline shall be confirmed to be the most current available products for the intended use.

**1. Station Area:** \_\_\_\_\_ **Fire Station no.** \_\_\_\_\_

Fire Station located at \_\_\_\_\_, shall be (number) \_\_\_\_ bays, for \_\_\_\_ personnel and \_\_\_\_ square foot station.

**2. Crew Size**

A standard fire station will accommodate a crew of 12 personnel, including the following as required: A crew consists of 1 Captain, 1 Engineer, and 2 Firefighters.

- a. 3 Fire Captains
- b. 3 Fire Engineers
- c. 3 Fire Fighters
- d. 3 Paramedics

**3. Fire Apparatus Vehicles**

The following fire apparatus/vehicles will be typically assigned to a fire station.

- a. 1 triple combination pumper:
  - Length: 29-32 feet
  - Width: 10.0 feet
  - Turning Radius: 52.0 feet
  - Weight: 47,000 pounds

- b. 1 aerial ladder truck

- Length: 40-60.0 feet
- Width: 10.0 feet
- Height: 12.0 feet
- Turning Radius: Varies on apparatus, up to 65' radius,
- Weight: 71,000 pounds

c. 2 miscellaneous vehicles (e.g., 2<sup>nd</sup> engine, B.C. vehicle, ambulance, brush rig or utility vehicles). Tandem parking is acceptable, in some circumstances.

d. Approaches and driveways shall not exceed 4% grade.

**4. Communications and Paging System** using a system that will allow for individual company and dormitory alerting through audio and visual alerting systems. A specific company will be determined prior to construction.

a. Provide a designated, Fire Station Control System alert paging system, with speakers located to be audible throughout the entire station and exterior areas under all conditions.

1. Provide the capability to turn station paging system off and on in designated rooms.

2. Provide exterior weatherproof speakers at all sides of station with an ON/OFF function wired to an automatic timer unit.

3. Provide automatically adjusting paging speakers located to provide complete audio coverage of the apparatus floor.

4. Provide speakers in all rooms, rest rooms and showers.

5. Provide conduit runs to the communication room from each speaker to allow for individual home runs.

6. The Communications Division requires that a conduit be installed at any new Fire & Lifeguard facility to meet present or future need to communicate with the City's wireless networks. While, not all facilities will need to utilize this conduit as the signal strength in some areas may be adequate for an internal antenna, ~~but~~ there may be future systems that require an external antenna and the conduit/roof penetration. Both should be reflected in the design and the construction phases of the facility. The conduit is for the transmission line, not fiber optics.

Conduit for Transmission Line: The Communications Division requires a 2" conduit from the TELCO room to the roof. The conduit needs to penetrate the roof and be capped with a weather hood. When possible, use the most direct path between the TELCO room and roof. The Communications Division will provide the transmission line and antenna when needed. Plan review and final inspection will be conducted at the project site by the IT Department of the Communications Division for approval.

7. An in-house telephone paging system will be installed to meet the requirements of the Communications and Electrical Division and the alert paging system. This system may be integrated with station alerting system

8. Provide an auto dial 9-1-1 phone to be used for emergencies only! Phone to be housed in an ADA approved and positioned red weather box with EMERGENCY 911 noted on the exterior of the box. This shall be located on the exterior of the station near the public entrance.

## 9. Security

a. The facility will have security fencing/wall and an electrically operated rolling gate at a minimum of 6' above grade. The coated chain link or wrought iron fence will be designed to provide security for City and personal property.

b. All rolling gates will be electrically operated with key pad, Knox Box key, and remote switch capability in station and using Delta III controller-receiver and have a metal guidance track mounted in concrete that will guide the gate to its predetermined closure point every operation and safety loops.

c. Station shall be equipped with a locally monitored remote camera system. The system shall be configured to record only upon sensing motion. It shall be positioned to allow monitoring of the entire apparatus room, building entrances and employee parking areas.

## **B. FIRE STATION - INTERIOR**

### 1. Lighting

a. General illumination, energy efficient office type lighting will be provided. An example of this is the extreme Performance T-8 fluorescent fixtures with electronic ballast system with cool white bulbs or new generation energy efficient systems approved by the Fire-Rescue Department. Every effort will be made to limit the use of non-standard light bulbs.

b. Natural lighting (including windows and skylights) shall be provided whenever possible.

c. Energy efficient lighting systems will be designed according to location and use, such as apparatus area, kitchen, and sleeping areas.

d. Provide a night lighting system in hallways, restrooms, common areas and

apparatus floor.

e. Provide an emergency lighting system though out the station.

f. Light fixtures will be equipped with timed motion sensor or occupancy sensors with temporary override capability.

## 2. Doors and Windows

a. All exterior window and doors shall be constructed of a material that is not affected by sunlight, include dual pane with high performance Low-E4 glass, weather-tight frames, sashes and seals. A 5/8" aluminum slat blind shall be mounted to the inside of the window that will increase privacy, energy efficiency and minimize the cleaning and other maintenance of the blinds. Interior screens shall be made of aluminum mesh screen and included on all operable windows.

b. All colors for windows, doors, both interior and exterior shall be submitted and approved prior to notice to proceed.

c. All exterior windows shall be high quality, noise-reducing, dual insulated glaze (double or triple pane), temperature efficient designs, and UV protected. Second story windows shall have a tilt feature allowing cleaning from the interior. Windows shall be operable.

d. All exterior doors shall be 3' x 6'-8", (standard 3068) metal and hang on metal frames.

e. All interior doors shall be an exterior grade, solid wood-staved core, birch skinned, 3' x 6'-8", and swing in the direction of the apparatus floor area, except doors entering into a hall will open in.

f. Panic hardware is required on interior doors leading directly into the apparatus area and second floor fire pole vestibule.

g. Privacy locks and latch sets are to be utilized on interior doors which lead to sleeping rooms.

h. Lock sets shall be by Best® and shall have 7 (seven) pin Best® cores on all locking doors.

i. Doors will have window area as allowed by code, except at restrooms, dorm rooms, and storage rooms.

j. Doors leading to restrooms, apparatus room, and the exterior of station shall have mechanical closures.

k. Stainless steel push plates and kick plates will be installed on all doors

### 3. Floor and Window Coverings

a. Non-carpet flooring such as wood laminate, stained & sealed concrete, or linoleum shall be utilized for officers' room(s), sleeping areas, hallways, day rooms and other high foot-traffic areas. Additional floor insulation shall be added in sleeping areas for noise mitigation.

b. The kitchen and restrooms shall be tile, commercial grade linoleum, and wood laminate, stained & sealed concrete, or terrazzo.

c. Watch rooms and dining areas shall be tile, terrazzo.

d. Exterior windows will be provided with vertical blinds or 1" metal mini-blinds or 3" horizontal blinds.

### 4. Walls and Ceiling Surfaces

a. Restrooms, kitchen, storage rooms, weight room, work room, communication room, and apparatus room shall be painted with 100% acrylic semi gloss finish.

b. Ceilings are to be drywall in restrooms, kitchen, and apparatus room; other areas may have drop ceilings as appropriate. Apparatus ceiling shall be enclosed with dry wall and insulated.

c. All outside corners within the interior shall have corner guards installed using stainless steel guards.

d. Restrooms shall have tile wainscot.

### 5. Central Air Conditioning/Forced Air Heating

Central air conditioning and forced air heating shall be provided in living areas as required to maintain 68-72 degrees. The system shall be designed to allow for easy cleaning of the units and ducting.

### 6. Fire, Smoke, Carbon Monoxide Detectors and Sprinkler System

- a. Fire, smoke, and carbon dioxide detectors shall be installed as required by the Uniform Building Code for Group B occupancies.
- b. The building shall be provided with a complete automatic fire sprinkler system per existing code. If the station is located in an urban wild land fire area sprinklers may be required on the exterior of the building.
- c. Sprinkler alarm shall be capable of being connected to a central monitoring station.

## 7. Cable T.V. Wiring

- a. Fire Stations will be wired and connected with cable television - service; outlets will be located in the day room, kitchen, personnel dorm rooms and weight room. TV mounting brackets shall be installed at an elevated position in each designated room.
- b. Provide flat screen T V wall mounting brackets at each location.

## **C. FIRE STATION- EXTERIOR**

1. No landscaping shall be place within 3' of the exterior of the fire station. Positive drainage shall be provided away from the station. Architects shall utilize drought resistant and water saving plants in their landscaping plans.

2. Exterior doors shall be 3' x 6'-8" metal with metal frames, except front entry door which may be store front type or patio doors if approved by Fire-Rescue Department.

3. Doorbells shall be interfaced with the station alerting system that rings all areas of the station. They are to be installed on both front and rear exterior doors, with different tones for each.

4. The exterior shall be constructed of metal framing and finished in stucco, with expansion joints and reveals shall meet or exceed code and detailed on drawings. The stucco finish shall not have a heavy texture. After color coat, the building is to receive a fog coat to insure uniform color and finish.

5. The roofs shall be designed as sloped roofs that are connected to a rain harvester with a 500 gallon tank.

6. The use of flat roofs shall be used to a minimum for mechanical needs only. These areas shall have positive drainage and crickets as needed to direct water to drains. Flat roof surfaces shall be SBS modified bitumen roof system with rock coating over Fesco® Board or equal. Mechanical penetrations shall

be kept to a minimum, but when used, shall have a 12" SBS modified granular cap sheet at that area. Parapet walls shall be covered with the appropriate flashing material, and all copings are to be galvanized metal. All terminations in the roof shall be reflected in plan details. All areas of the roof shall have roof ladders for access and provide walking pads to all roof top equipment.

7. Sloped roofs shall not be standing metal seam systems.

8. Rain gutters will be a separate unit and independent of the other roof systems. Rain gutters must be able to be removed and replaced without compromising the integrity of the roofing, flashing, or building finishes. Gutters shall be designed, sized and installed in a manner to catch water shed. Internal roof drains shall be insulated to minimize interior noise in living areas.

9. Hose bibs shall be provided at each side of the apparatus room, the patio, at each corner of the building, as needed at maximum 75' intervals and at the trash enclosure. Provide a 1 ½" supply line off the fire sprinkler supply with a 1 ½" hose bib with National Standard Pipe tread, controlled with a bronze ball valve, located next to the above ground fuel tank if tank is required.

10. Private Vehicle Parking Areas Driveways and Security Fencing.

a. A private parking area shall accommodate, as space allows, 2 (two) parking spaces per assigned crew. (Note: Minimum 11 spaces + ADA. Double house requires 16 spaces).

b. The employee parking area shall be enclosed with a 6 ft. high vinyl coated chain link fence, wrought iron, or concrete block wall. The gate shall be rolling type, electronically controlled by code pad, Knox Box key control, and Linear remote.

c. An unfenced visitor parking area shall be provided for two visitor spaces, and one ADA compliant space near the front door.

11. All outside driveways and aprons adjacent to the apparatus room floors shall be a minimum of 10 inches, 5000 psi concrete, with steel at 12" on center, designed to accommodate the department's fire apparatus heavy-duty equipment. All other outside paved areas such as walkways, parking areas shall be a minimum of 6 inches, 4000 psi concrete, with steel at 12" on center. All concrete shall be positively slope for drainage; catch basins will be required to comply with Stormwater regulations.

## **12. Outdoor/Exterior Lighting**

- a. Outside lighting shall be timer controlled with a switch override and provided as needed, to illuminate the general surrounding area of the fire station and a separate front porch and patio lighting.
- b. The crew parking area shall be illuminated with energy efficient fixtures, with cost-effective replacement bulbs, controlled by photocell in series with a switching ability.
- c. Working lights shall be provided at the exterior front and rear of the apparatus room. These fixtures will be controlled with individual switches.
- d. A red light shall be located near the entrance of the fire station; the light will be controlled with a photocell.
- e. Two lights shall be located to illuminate the flag pole. These shall be controlled by a photocell in series and have a switch to over ride the lighting. Installation of these lighting components shall not be in the ground.
- f. Baby Surrender Sign shall be 20" x 32".

### **13. Landscaping:**

- a. Provide low maintenance, drought tolerant landscaping with irrigation systems and automatic timers.
- b. Irrigation shall have a separate meter. Reclaimed water will be considered.
- c. The landscaped areas shall have good drainage away from the building and off the lot.

15. Fire Station Exterior Signs: The fire station sign shall be approved by the Fire-Rescue Department. The sign should read "City of San Diego, FIRE STATION \_\_\_\_". The size of the letters is to be a minimum of 8" and 10." The font style shall match with the architectural style of the building.

16. Address characters shall be a minimum of 12" high, visible from the street, and illuminated.

17. Flagpole: Provide a 30', ground mounted aluminum flagpole capable of accommodating a 4'x6' flag.

18. Mailbox: Provide a mailbox in accordance with Postal Service requirements. When a mail slot is provided in a door or through an exterior

wall, the access door cover must cover the entire mail slot opening and open outwardly. This will prevent weather and water damage to interior of the station. If required by postal Service to be located on the street, box shall be lockable, water tight, and sized to accept magazines.

19. Fire Hydrant: a fire hydrant with one 2 1/2" and one 4" outlet shall be positioned near the driveway at the front of the fire station and on the same side of the street, adjacent to the driveway. When drive-through capabilities exist, the hydrant shall be placed near the rear of the station driveway on the driver's side.

20. Traffic Control Device: The installation of traffic control devices shall be considered with regards to station location and traffic signal controls in the area.

21. Provide truck wash area which drains to the oil separator and has a rain diverter valve or landscape run off area.

#### **D. APPARATUS AREA:**

(No pre-engineered buildings, i.e. "Butler Building", shall be used.)

1. The apparatus room shall, where possible, have drive-through stalls and shall provide 3 (three) or 4 (four) bays as required by size of crews and will be defined in design development. Bays shall be a minimum 72' in length and provide 14' apparatus doors, both in height and width unless otherwise approved.

a. The apparatus area shall be capable of housing 3-6 vehicles including any combination of the following:

- 2 triple combination pumpers (1 for front line, 1 reserve)
- 1 Aerial ladder truck
- 1 Brush rig
- 1 Ambulance
- 1 Battalion Vehicle
- 1 Utility Vehicle

b. The apparatus room shall be provided with passive and positive ventilation. A diesel exhaust system shall be attached to the vehicle exhaust.

c. The apparatus room shall be constructed without columns in the open space area.

d. Apparatus Floors shall be a smooth sealed concrete finish.

2. Commercial quality overhead doors shall be provided at the front and at the rear of the apparatus area, for each bay.

a. Doors are to be individual for each apparatus. One single large door is NOT to be used. Doors shall be sectional and not roll up. Doors shall have a 100,000 cycle heavy duty spring. During operation each door will have a safety strobe light indicating while the door is opening to full height.

b. The apparatus door dimensions are as follows:

Height:	14 feet
Width:	14 feet

c. Apparatus doors are to be the overhead sectional type, electrically-operated type. Each door will have a separate electric eye and electrical safety device to prevent contact with fire apparatus. Eyes shall be set at 2.5 feet above floor to intersect the vehicle bumper.

d. Doors are to be able to be operated both at push buttons located by each door, a master control panel adjacent to the main apparatus floor door entry. Doors operators shall be compatible with Linear Delta III controller receiver. The receiver antenna shall be located to receive a signal from the street.

e. Buttons shall have open, stop and close positions.

f. Vision panels are required on each door at approximately 5'6".

g. All doors shall be wired to the emergency electrical circuit to facilitate continuous operation. Cut-off switch shall be installed at each door within reach, for maintenance & repair purposes.

h. Doors are to be factory finished with powder coating.

i. Apparatus doors shall have the ability to have a manual override enabling the door to be opened manually in less than 1.5 minutes

J. Doors shall have a light-base signal system, alerting the driver when the door is fully open or not fully open. Example:

 = door not fully open  
 = door fully open

3. Apparatus room floor shall be a minimum of 8 inches, 5000 psi concrete, and reinforced with re-bar 12" on center.

a. The apparatus floor shall be poured in keyed sections using greased rods to connect each section.

b. Sections shall be poured in a manner to slope to floor drains at each bay.

c. Where the concrete comes in contact with side walls, front and rear driveways, and any other surface, the floor will be fitted with zip cap felt and caulking.

d. The finished concrete shall be cleaned and sealed in the final phase of finish construction. (Notes shall be made on the drawing to protect the concrete finish through out construction)

4. Floor drains are to be located to have 2 (two) drains in each bay located under the apparatus. These are to be connected to an oil separator as required by code.

## **5. Apparatus Area Walls/Wall Space**

a. Stem walls shall be a minimum of 6" high with 4' high ceramic tile wainscot with an integral-covered base.

b. A smooth 10'x10' wall surface shall be provided for a district map. This shall be constructed of 3/4' plywood, edge banded, joints sealed and painted white to take sizing/ paper. Two 4' fixtures in line fluorescent light with two tubes each shall be provided over the map area, and switched next to the map. Provide a curtain to protect the map from fading.

c. A wall mounted 3'x3' whiteboard shall be provided adjacent to the apparatus floor telephone.

## **6. Exhaust Extraction System**

- is an automatic mechanical ventilation & diesel exhaust filtering system that is vehicle-mounted, to remove diesel particulate exhaust gases for fire trucks & ambulances

a. Adequate separation between the apparatus room and the living area shall be provided to prevent the transmission of vehicle exhaust from the apparatus area to the living areas of the station.

b. Mechanical ventilation shall be provided for the apparatus area with

direct hookups to the apparatus exhaust pipe removing 100% of engine exhaust to the outside of the station.

c. The ventilation system shall be automatically actuated and have the ability to provide drive through or back in operation.

d. System shall be Evec System or Fire-Rescue Department or approved equal.

7. Lighting shall be provided between each bay with some remaining on at all times, and have the ability to have the remaining lights to be switched on and automatically come on when the paging alert system activates ( This requires a relay at the communication room .

8. Drop cords shall be provided on the driver's side of each vehicle. Each drop is to be on its own circuit. The cord shall be 12/3, 600V, and water resistant. The cord shall have a rubber coated, water proof bell box with a rubber coated lid, HBL17CM85, having a built in switch and a on indicator light. The cord will terminate with a female 20 amp connector. A 2' (two) foot break away section will be added to the female termination having a 20 amp male fitting on one end and a 20-amp female, on the other end. The 20 amp end is to hang 12" from the floor. Drop cord junction box at ceiling shall be positioned at 1 foot inside door opening on driver's side and 12 feet back from door opening.

9. Provide electrical outlets along all walls spaced at 12' intervals, on walls between apparatus doors, and on any stem walls.

10. A compressor capable of 150 psi, Ingersoll-Rand 2475N5 W/ starter, shall be installed and plumbed to provide access to designated areas of the apparatus room. Plumbing shall be sloped to water separator and have ¼" quick connections.

**E. SPECIALIZED ROOMS/AREAS** (WASH ROOM, WORK ROOM, ELECTRICAL ROOM, MECHANICAL ROOM, LOCKER ROOM, WEIGHT ROOM, AND COMMUNICATION ROOM and BREATHING AIR MECHANICAL ROOM)

**1. Wash room** shall be provided containing a washer and dryer, deep sink, shower area, and a hose bib.

a. The wash room shall be finished in tiles with a central floor drain.

b. A mop service floor basin will be provided, being 4' x 5' in the clear.

- c. A wall mounted deep stainless steel sink shall be provided in this area.
- d. Provide area to accommodate washer and dryer. This area for the washer shall have hot and cold water, a drain for a residential washer. The dryer area shall be capable of being gas or electrical, and be vented to the exterior.

## **2. Work Room**

- a. A work room shall be directly adjacent to the apparatus area.
- b. A 30"x8' work bench constructed with a solid 1 1/2" hardwood top covered with galvanized sheet metal. A storage base cabinet with doors mounted on Rockford Process Control 851 overlay hinges and drawers on heavy duty glides shall be provided below the work bench. Upper cabinets shall be provided. A space with backing shall be provided for 5" mounting, heavy-duty vise on workbench top.
- c. A floor drain shall be installed in this area going to the oil separator.

## **3. Water Room**

Provide a separate area for a commercial quality water heating system.

## **4. Electrical Room**

An electrical/mechanical room shall be located in a manner that would allow access by San Diego Gas & Electric Company, phone, data, and solar equipment.

## **5. Communications Equipment Room**

- a. The communication room shall be a minimum of 4' 6" x 10' in the clear.
- b. The room shall be air conditioned or conditioned from an adjacent room though louvered doors.
- c. One 10' wall and one 4' 6" wall shall be covered with 3/4" plywood, good one side, beginning 3' off the floor and extending to 7'. The area in front of the 4' 6" wall shall be kept clear to provide for the installation of a computer rack by others.
- d. Provide conduit and pull boxes to accommodate City's cable contractors to pull cable cords to all rooms requiring communication connections, including phones, cable TV, Data and Alert System. All cabling is provided by Cable

Inc in order to obey City and Xerox (or the City's current approved vendor) standards for all of Communications requirements. This may change in the future.

- e. Provide four (4) circuits in communication room in double duplex boxes. Each circuit shall be on emergency power.
- f. Provide a two-inch conduit between the communication room and a weather head mounted on the exterior of the building. This shall be located on a high portion of the building next to a location for an antenna mount. An antenna mount shall be provided using two Unistrut post placed 2' apart securely attached to the building.
- g. Conduits should be 2" (PVC Interior, Rigid Galvanized Conduit Exterior).
- h. 800 MGH2 Antenna and City Fiber Optics connect to roof via 2" Rigid Galvanized Conduits. Location of city fiber optics to be verified by city's IT Communications Division.

#### **6. Storage Room / Hose Storage Area with floor drain:**

Provide an exterior storage room 5' x 9' with a vented door.

#### **7. Locker Room:**

A turn out gear locker room shall be provided to house the required number of lockers for the crew size. The room shall be vented to the exterior and enclosed with doors.

- a. The number of lockers shall be for a crew of 6 is 21, for a crew of 10 is 33, for a crew of 11 is 36, and 12 is 38 or crew x 3 + 3 extras minimum. The larger the crew size, the more extra lockers are required.
- b. The locker room shall be located next to the apparatus room. The room will be provided with passive and positive ventilation.
- c. The lockers, without legs, shall be installed on concrete house keeping pads.
- d. The lockers shall be heavy duty, non-rusting, 45% ventilated metal or other types of industrial material lockers (thermal plastic or others), 24"x24"x72"; 16 gauge steel, flat tops, bottoms and sides; 14 gauge steel doors with recessed handles with padlock attachment, and space for name tag. The lockers shall have a shelf at the top and three (3) each paired hooks, one on each side

and one on the back.

## **F. FIRE STATION LIVING AREAS:**

**1. WATCH ROOM /RECEPTION AREA:** The watch room shall be, approximately 10' x 15', large enough to provide for;

- a. Two built in standard 30"x60" desks with two swivel chairs.
- b. Counter space for two computer monitors & terminals 23" W x 15" D, one printer, fax, and copier all in one, and two desk top telephones.
- c. Provide three built in legal size file cabinets.
- d. A built in wall mounted, four shelf bookcase/storage spaces (48"x36") that can be locked to provide security of contents.
- e. Provide electrical outlets for two computers, printers, fax machine, and table top cable grommets in proper locations near work stations. These are to be on emergency power.
- f. Provide a 1 inch conduits for four (4) phone/data lines, two (2) for phones one for computers and one for fax.
- g. Provide a counter for public near front entry with ADA approved section.
- h. Provide a window.

**2. MAIN ENTRY DOOR:** The main entry door and entry area shall be located next to the watch room/office and have an ADA rest room adjacent to this area.

**3. DAY ROOM:** The day room shall be large enough to house the number of crew assigned to the station in large chairs (1 crew per ready chair). Chair materials shall be bed bug proof. The day room is to be used for training and is to be separate from the kitchen and dining area.

- a. Provide a wall mounted dry-erase board (4'x8'), with a bottom shelf, which can also be used as a projection screen.
- b. Provide a wall mounted bulletin board (3'x6').
- c. Provide a built-in bookcase approximately 4' x 6', shelves are to have 1 1/4" edge facing on the front and be adjustable.

d. Provide built-in cabinet space for up to a 70" TV and DVD player, with access to a double duplex outlet and cable TV outlet. This unit may be designed with the book shelving.

e. Floor is to be wood flooring with Janko hardness scale of 3,000 or higher, with adequate sound-insulating foam underlayment.

#### **4. KITCHEN AND DINING AREA**

a. The kitchen and dining rooms may be designed together or considered separate. The area of the dining area shall be (15 -20) x (20-25) and the kitchen shall be (14-16) x (16-20). If the two are to be open to each other sufficient wall space will be considered to allow adequate cabinets for storage.

b. The floor of both areas is to be a concrete, terrazzo, porcelain, or ceramic tile.

c. Cabinet Space Storage Space:

1. All cabinets shall be Wood Institute Criteria (W.I.C.) premium grade.

2. The sides, bottoms, and backs are to be 3/4" exterior marine plywood or equivalent. The doors are to be of solid wood. The top is to be 3/4" ply as a backing for stainless steel counter top. Shelves shall be 3/4" marine plywood or equivalent covered on both sides with laminate, edge faced with 1 1/4" banding, and be adjustable. No particle board with melamine.

3. Doors are to be installed with SS Rockford Process Control hinges, 851 overlay brushed stainless steel. Pulls are to be SS wire pull type. Drawers and pull-out shelves are to be constructed of Baltic Ply with self-closing full extension drawer guides.

4. All cabinets exposed surfaces shall be plastic laminated material.

5. Provide four separate pantries, each pantry is to have individual lock and key, the minimum size of each pantry is 2'x2'x8', and adjustable shelves are to the same as above.

6. Provide cabinets over the kitchen counter to assure adequate storage space for dishes and food. Depth of upper cabinets shall be 12 inches in the clear (14" in depth). Provide a section to house a microwave oven in the uppers with electrical.

7. Base cabinets counter tops shall be 37 ½" high with drawers on heavy duty, self-closing glides. Cabinet space shall be maximized to provide adequate storage for utensils, pots and pans, and food. Base cabinets shall be 30" deep at the stove and sink. The sink base cabinet shall be 40" wide.

8. Provide a one piece stainless kitchen counter with full back splash to bottom of upper cabinets and a built-in large double sink. Counter top shall be 16 gauge, 304 stainless steel with marine edge on front and exposed ends and extend over the edges of drawers and doors. Integral built in sink to be #4 finish, 14-gauge, bottom coated, one side of the double sink is to be 18"x18" and 10" and the other is to be 18" x 18" x 8" deep; sink is to have a 3-holes for faucet plus two holes for pre-rinse spray accessory and filtered water spigot. Provide 22 gauge, 304 stainless steel, for wall covering from counter top back splash to under side of upper cabinets. Provide electrical outlets with stainless steel cover plates. Provide a heavy duty (minimum ¾ horsepower) SS garbage disposal.

9. Provide stainless steel dishwasher with electrical and plumbing for operation.

10. Provide cabinet door for opening equal sized to the dishwasher for a trash receptacle and continue adjacent floor covering into this area.

d. Wall and Floor Surfaces

1. Walls shall be painted with 100% acrylic paint with a semi gloss surface.

2. A stainless steel wall surface is required adjacent to the range cooking surface, including the sides of the cabinets. Use 22 gauge, type 304 brushed stainless steel.

3. Floors shall be covered with a porcelain, non-porous tile, ceramic tile or terrazzo.

4. A floor drain shall be provided, with the appropriate floor slope to drain.

e. Refrigerators: Provide space, water supply for ice makers, and electrical outlets and ventilation for a minimum of four 36" wide refrigerators. Fire-Rescue Department will provide refrigerators.

f. Double house stations shall have a Manitowoc under counter ice machine installed next to the four refrigerators.

g. Gas Range and Oven: Gas ranges shall have electronic ignition. Provide

space to accommodate a 60" wide, heavy duty gas range and oven. Clearance on each side of the range shall be a min. of 6" and the adjacent cabinets and rear wall shall be covered in stainless steel.

h. Range Hood:

1. Install a stainless steel commercial grade or equivalent hood sized to extend 6" beyond each stove edge (varies by stove model). A 60" range shall be provided and the hood shall be compatible with BTU output of the provided range.

2. Range hood shall include two (2) lights, a two-speed, roof-mounted exhaust fan with a 3/4 HP motor capable of proper CFM, and removable, washable stainless steel filter screens. The hood shall conform to Health Code, U.B.C., U.M.C., and N.E.C. as adopted by the City and County of San Diego.

i. Provide a cabinet space and electrical outlet for a 1.5 cubic foot microwave oven.

**G. SLEEPING AREAS:** All dimensions are in the clear.

1. The Battalion Chiefs quarters are providing a 10' x 10' office separate from a 10' x 12' dorm area with an attached restroom (approximate total area of 20' x 32').

2. The Captains room is to be 10' x 12' with an attached restroom. A restroom is to be provided for each captain.

3. The fire fighters and medics are to have 10' x 10' rooms in the clear.

4. Sleeping areas shall be located to minimize disturbance when one crew is called to respond. Each room shall be insulated and have sound battens on adjoining walls.

5. Lockers are to be provided in each dorm room

a. Four lockers shall be located in each room.

b. Lockers shall meet San Diego Fire-Rescue Department's personnel locker specifications: Three standard-sized lockers at 2'- 10" (34") wide x ceiling height and one sub-standard locker at 1' – 6" (18") wide x ceiling height. These 4 lockers occupy the entire length of a typical fire fighter dorm room of 10' x 10' on one side.

c. Provide a padlock eye set Master 60.

6. Desks tops are to be built into each room. The crew rooms are to have 30" desk top units. The Captains are to have a 5' desk with a file drawer and pencil drawer. The Battalion Chief is to have a 6' desk in their office with drawers on each side and a pencil drawer.

7. To comply with department's policy in addressing bed bug infestations, no built-ins for the bed frame/storage. Instead, a traditional bed frame, with extra long twin box spring and mattress shall be provided. .

Bed pedestal base units are to be provided with 3 full sliding drawers under them.

8. Lighting, (all Lights are to be on motion sensors)

a. Provide LED wall mount lighting above each desk and bed with individual control.

b. The overhead lighting fixture is to be individually controlled from within each room.

c. Provide an exterior window to provide natural light.

9. Wall mounted adjustable television brackets shall be placed in each dorm room with cable and electrical outlets provided.

**H. BATHROOMS:** Battalion Chiefs and Captains will have individual bathrooms attached to their dorm rooms and the remaining crews will have one bathroom per each 3 dorms with a minimum of 2 individual bathrooms.

1. Individual bathrooms will be provided that will accommodate separate male and female occupancy.

2. Provide a shower, a sink and a water closet per each two (2) fire fighters/ medics.

3. If partitions are to be used, they shall be Phenolic or solid plastic type, with SS hardware, and no metal partitions.

4. The showers shall be 48" x 48" (4' x 4'), minimum, in the clear, with individual drying enclosures, if required, which will be contiguous with their respective showers. The enclosure will have a folding seat with phenolic seat and SS frame, as Bobrick B5191, two (2) SS hooks, Bobrick B-7676, a 24" surface mounted towel

shelf with towel bar. The shower shall have a soap dispenser compatible with SDFD supply, a shelf, Bobrick B-204-16 and a shower door will be installed. The drying area, if required, shall have a privacy door. Showers pans are to be hot mopped in or have a solid terrazzo or equal pan. The tile at the shower area is to be epoxy grouted.

5. Lavatory sinks are to be mounted on 37 1/2" cabinets, specified to match the kitchen in quality, and to be epoxy grouted tiles on sealed wonder board or solid polymer. The mirror will be constructed with a SS frame, as Bobrick B290, size call out varies with opening size, minimum 2' x 2'. A liquid soap dispenser shall be compatible with soap stocked by Storeroom, and a paper towel holder as Bobrick, B-359, a SS towel hook shall be adjacent, Bobrick B-6777 or towel bar, Bobrick B-205.

6. The water closet shall be enclosed by walls or partitions and have a double roll toilet paper dispenser, Bobrick, B6867.

7. Floors shall slope towards floor drains and be finished in tile. The walls are to have tile wainscot to 4'.

**I. EXERCISE / PHYSICAL CONDITIONING AREA:** An exercise room or physical conditioning area shall be provided in the fire station. This room shall be a minimum of 20' x 20' and be provided with a window if possible and have HVAC. The walls will be backed with a minimum of 1/2" ply with drywall covering, and have backing to mount weight equipment. The floors shall be on concrete or have double 3/4" plywood and be covered with rubber matting.

**J. STORAGE ROOMS:** Provide two (2) mini storage rooms inside the station at each floor, both are to be minimum 4' x 6' and have adjustable shelves; one is to have a lock fitted door for medical supplies. An additional exterior storage room is to be provided with a minimum of 4'x 6'.

**K. PATIO:** Provide a private patio with a gas outlet, electrical outlet for a barbeque and switched lighting.

#### **L. FUEL DISPENSING SYSTEM**

1. Above ground 1000 gallon fuel tank and pump shall be provided and shall comply with current Federal, State, County, and Local requirements including Storm Water and Fire Marshall. Tank shall be UL approved and be approved by the City.

2. The fuel dispenser shall be located in a place with minimum visibility and

access to the public, but easy access to the driver's side of the apparatus.

3. Provide a 20' retractable hose which connects from the nozzle to the fuel dispenser. The nozzle shall have an automatic shut off feature.

4. Provide an emergency shutoff switch in an approved location, clearly visible from the refueling area.

5. Outside lighting shall be provided in the refueling area.

6. The tank shall be placed on a concrete pad sloped to drain rain water at a self closing valve and a curb containment around it. The tank shall be shimmed to be level.

7. A hose bib or other water supply shall be provided in the refueling area.

8. Provide a 1 1/2" stand pipe with American National Standard threads and ball valve shutoff.

#### **M. STAND-BY GENERATOR**

1. A diesel-fueled stand-by generator shall be provided for continuous standby service and sized at 20KW (less than 50bhp) or other designated size by the Fire Department. The unit shall have a weather/sound enclosure.

2. The fuel tank shall be integrated with the generator and have remote fill capability, with a monitoring and shut-off capability. Tank will be sized to provide 48 hours of operating run time and shall meet all applicable codes and regulations. When the location of the generator and fuel tank are in close proximity (10') the fuel can be supplied by the fuel tank. The fuel line can be exposed and have a gutter under it leading to the curbed area around the tank.

3. A trickle charger shall be installed to maintain proper charge of generator batteries and a remote monitoring panel shall be located in the office.

4. The stand-by generator shall operate the following locations as a minimum: overhead doors, all communications equipment including air condition, phones, alert monitors with amplifier, kitchen appliances and refrigerators, minimum selected lighting throughout the station including apparatus floor and map area, fuel dispensing systems, various selected outlets throughout the station (emergency outlets shall be color-coded red and there will be a minimum of one per room), exhaust extraction system. All exterior and interior back-up lighting shall be evenly distributed at 25%.

5. The generator and its engine shall meet the most current Federal, State, County and Local laws, regulations, standards, and codes. The engine shall be certified, and meet all State and local EPA standards.
6. Design specifications shall incorporate a requirement of the general contractor to provide for the permitting of all regulatory mandates including the construction, start-up and operation permits.
7. Minimum Distances between Generator and Bldg & Lot Lines:

**TABLE 5705.3.4(2) REFERENCE TABLE FOR USE WITH TABLE 5705.3.4(1)**

<b>TANK CAPACITY (gallons)</b>	<b>MINIMUM DISTANCE FROM LOT LINE OF A LOT WHICH IS OR CAN BE BUILT UPON, INCLUDING THE OPPOSITE SIDE OF A PUBLIC WAY (feet)</b>	<b>MINIMUM DISTANCE FROM NEAREST SIDE OF ANY PUBLIC WAY OR FROM NEAREST <u>IMPORTANT BUILDING ON THE SAME</u> <u>PROPERTY</u> (feet)</b>
275 or less	5	5
276 to 750	10	5
751 to 12,000	15	5
12,001 to 30,000	20	5
30,001 to 50,000	30	10
50,001 to 100,000	50	15
100,001 to 500,000	80	25
500,001 to 1,000,000	100	35
1,000,001 to 2,000,000	135	45
2,000,001 to 3,000,000	165	55
3,000,001 or more	175	60

By the chart in the Fire Code- it will comply with distances from Bldg's/ if the Distances to Property Line cannot be complied with. In Lieu of Distance—a Non-Combustible-(Masonry) 2 hrs Fire Barrier- 18" above and 18" beyond the front of the Tank or Genset is constructed.

**N. GENERAL PLUMBING:**

1. Toilets shall be wall mounted with water saving flush valves.
2. The kitchen and restrooms shall have floor drains with trap primers. Primers are to be solid brass or bronze, no plastic parts, and are easily accessed via inspection panels.
3. Hose bibs on the building shall be installed with box housing and be key

controlled type. They are to be located on each side of the apparatus bays and at 75' intervals.

4. Plumbing walls shall have 2" x 6" studs.

5. All hot water pipes are to be insulated.

6. All angle stops shall be ball type with 2 A FIP.

7. Shower valves and head are to be Moen, posi-temp, Model T2444 +25902.

8. Kitchen faucet is to be Chicago, hot and cold single wing handles, high rise swing spout with hose and spray, Model 1102 CP, or approved equal.

9. Lavatory faucets are to be single handle, Moen L4721.

10. Provide gas outlets for hot water, range, barbeque, clothes dryer and HVAC. Each outlet shall have an individual shut off valve.

11. All PVC and ABS pipes and fittings shall be solvent welded. Pressed fittings are unacceptable.

## **O. GENERAL ELECTRICAL**

1. All exterior lights shall be energy conserving LED and time clock controlled and motion sensors.

2. Cost and standardization of replacement bulbs will be considered in selection of fixtures.

3. Flexible conduit should only be used to connect motors and for lay out of fixtures.

4. All receptacles and switch boxes shall be 4" x4" x 1/2" with mud rings.

5. Telephone systems, computer systems, radio communications and cable television systems shall be designed in the building development using conduit.

6. Computer systems shall be on dedicated circuits.

7. Use stranded conductors for all feeders and branch circuits.

8. All wall switches shall be commercial grade, heavy duty, 20 amp, 120v/277v

and duplex receptacles shall be commercial grade heavy duty, 15-20 amp 120v/277v.

9. Wall plates shall be non breakable nylon or Stainless Steel. Galvanized steel can be used in Apparatus Bay areas.

10. Use T-8 and other energy efficient fluorescent light systems where ever possible. No incandescent lamps.

11. Provide a wire marker on each connector in the pull panel, pull boxes, and junction boxes. Label the inside of all cover plates and the junction boxes with the circuit number.

12. Connect all wiring device grounding terminals to an outlet box with bonding jumper.

13. Provide source protector (surge protection) for power entering the building.

14. All outlets on emergency back-up generator shall be noted of wall plate.

#### **P. TRASH ENCLOSURE:**

Adequate enclosed space shall be provided for garbage containers (10'x6'x6' high minimum) or dumpster containers to accommodate trash and recyclables.

#### **Q. ADA COMPLIANCE:**

Fire Station facilities must comply with current American with Disabilities Act (ADA) requirements. Please consult directly with Fire-Rescue Facilities Manager to discuss & coordinate compliance review. Each project is reviewed on a case by case basis.

Note: Fire stations must provide one ADA-compliant public restroom. One of several bathrooms designed for the fire crew must be "adaptable" by providing a temporary shower curb that can be removed if needed, while ensuring the prevention of potential drainage issues. Other design alternatives include: providing a shower wall towards the door and have an opening on one side for access or shower enclosure, in lieu of a curtain.

#### **R. TEMPORARY DISPLACEMENT REQUIREMENTS:**

1. Fire Station facilities that require complete demolition of an existing station and new construction require a comprehensive temporary displacement

plan that outlines the temporary location (in coordination with Real Estate Assets Department - READ), to accommodate the existing station crew and the necessary apparatus and other equipment, to ensure that fire-rescue operations are not interrupted.

2. The temporary Fire Stations have minimum requirements:
  - a. Back-Up Generator; Typical size based on load calculation needs is a 12 KW with a 30 gallon tank (under 50gal=no permit)to power the apparatus doors, kitchen, apparatus and trailer internal lighting, apparatus block heater, motorized gates and one phone/data. Here's an example:

Specification sheet

## RV generator set Quiet Diesel™ Series RV QD 10000/12500

Features and benefits

- Computer-controlled constant speed operation - quiet diesel performance for larger RVs.
- Special sound-controlling housing encloses cooling system and muffler.
- Three-point, fully focalized internal mounting system reduces vibration.
- Self-diagnostic capabilities simplify troubleshooting.
- Easy, accessible maintenance points.
- Runs two or three rooftop air conditioners with power to spare.
- High quality, pure sine wave electrical output helps prevent damage to appliances.

Models and ratings

Model	Fan	Hz	Watts	Voltage	Amps	Phase	Circuit breaker
<b>12.5 HDKCB-11506</b>	Internal	60	12500	120/240	104.0/52.0	1	50 A, 2-pole
<b>10.0 HDKCA-11506</b>	Internal	60	10000	120/240	83.3/41.7	1	45 A, 2-pole

Cummins Onan




Weight, size and sound level

**Weight:** 767 lbs (348 kg) 10.0 kW  
787 lbs (357 kg) 12.5 kW

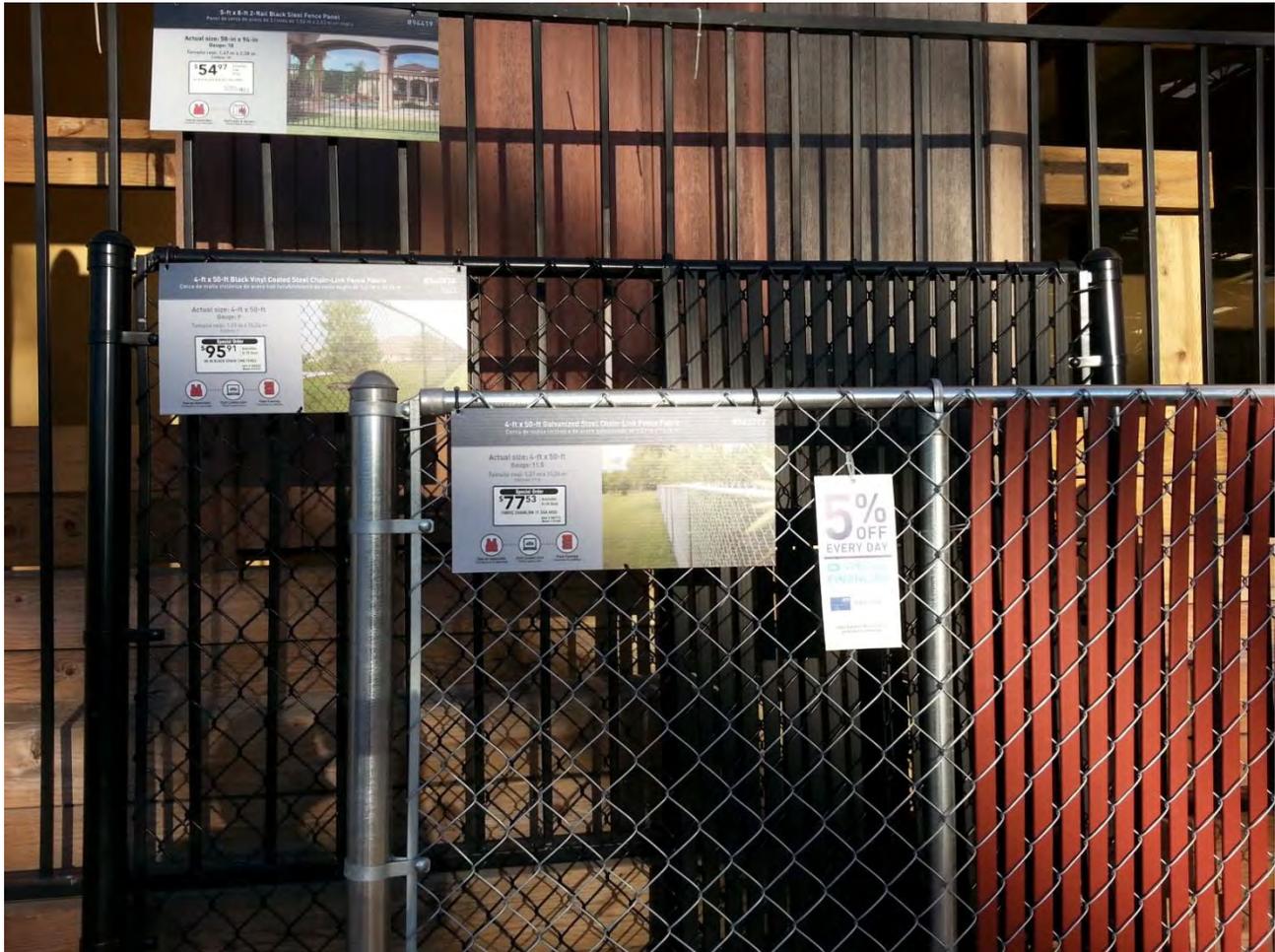
**Size:** Length 41.4 in (1051 mm), width 24.5 in (622 mm), height 27 in (685 mm)

**Sound:** 70 dB(A) readings at 10 ft (3 m) half load

- Meets National Park Service sound level requirements (60 dB(A) @ 50 ft) for national park use.
- Typical installation will further reduce sound level.

3. In a permanent fire station, a 49hp generator is typical for a permanent fire station. Anything above the 50HP will require permit & compliance from APCD.

#### 4. Temporary Fencing Options:



#### S. CAMERA MONITORING SYSTEM:

The camera system shall be designed to provide high-quality, digital imagery of suspicious persons and their activities. Some cameras will start recording at a higher resolution when an alarm condition occurs.

#### T. Furniture, Fixtures & Equipment:

New fire station design & construction cost is approx. \$10million with \$170,000 set aside for FF&E. That equals to approx. 1.7 to 2% of the total budget which is well below industry standard; Because typically it is 12-16% of the total project cost or approx. \$9-\$12/SF. FM office will recognize that the standard industry for infrastructure cost for FF&E is always a lump sum amount.

#### U. HAZMAT Stations:

1. C-Taners onsite for extra storage require power and water spigot nearby.
2. Calibration Room/Clean Room required on first floor.
3. Temporary Hazardous Waste Container shall be placed on a pad with full containment for potential leaks/spills.
4. Much of HAZMAT Equipment requires storage with Air Conditioning & Power.

#### **V. Station Alerting & Communications:**

1. Station Alerting must comply with SDFD's current standards and specifications (see Exhibit #1)
2. The conduits size and location shall be identified to be used for phone/data ports, PA system, intercom and station alerting system. The current City approved vendor contract and Department of Communication require two 2" conduits with a 12x12x4" pull box set(s) on the wall with the small back entrance door. If more than one pull box is required, both will accept two, 2" conduits. The current City vendor shall identify the correct height from the finish floor and final location for the pull box.

### **EXHIBIT #1 Station Alerting Standard Specifications**

**EXHIBIT D**  
**GENERAL SERVICES FACILITY MAINTENANCE DESIGN STANDARD AND SPECIFICATION**  
**GUIDELINE**

CITY OF SAN DIEGO  
**MEMORANDUM**

DATE: February 13, 2015

TO: Distribution

FROM: John Montoya, Sr. Building Maintenance Supervisor, Public Works,  
Facilities Division

SUBJECT: New Construction Standards and Specification Guideline from Facilities Division.

The following are the most recent requests for the A & E Specifications to be entered into the Specification Manual from the Carpenter Shop, Roofing Shop, Lock Shop, Paint Shop, HVAC Shop, Plumbing Shop, Electrical Shop, of Public Works / Facilities Division.

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**Division 1 General Requirements**

Public Works / Facilities Division requires review of all plans or designs for new or improvement projects to City owned Buildings. Facilities Division would like review of project submittals before approval by design team. City consultants should also check with us of any improvement work is that is being requested so we can share any building history which would be of value.

Project Officer or RE is to fill out and submit Facility Record Form: REA-111 to Auditors Department prior to project completion by contractor. **It is recommended this be done at 80% Project completion.**

Identified Funding or WBS numbers will be opened to our Department 2113 before any Plan Review, Project Walk- Thru or Inspections can take place by Public Works, Facilities Division

**Division 2 Site work**

**Division 3 Concrete**

**Division 4 Masonry**

**Division 5 Metals**

**Division 6 Wood and Plastics**

## **Division 7 Thermal and Moisture Protection**

### **Roofing:**

#### **Option 1.**

Roof material and specifications on ¼” to 3” per foot roof slope.

No gravel roofs are to be installed on any City Facility, Exterior gutters are to be used in place of internal or boxed in gutters, drip edge metal flashings should be installed over the edge of the gutter and the gutter should be sloped to the down spout.

Facilities Division uses a Class “A” four-ply mineral surfaced fiberglass built-up roof system. The first ply is a fiberglass base sheet that may be nailed or mopped in place with hot asphalt. The following plies consist of two layers of Glass Ply mopped in place. The final layer is one Ply of hot mopped Mineral Surfaced Modified SBS Bitumen Cap sheet product with a Fire Retardant rating. Roofing system shall meet Title 24 and Cool Roof Ratings.

Installation specifications shall meet Manufacturers Application Instructions.

- When the roof is complete, there shall be 4 layers of roofing material at all locations on the roof.
- All roof jacks will be primed and properly fastened in place
- All fasteners should be galvanized or suitable to application.
- Asphalt should meet ASTM requirements and be applied at a minimum of 400 degrees
- All flashing and roof jacks should be minimum 24 gauge galvanized metal
- Roof drains will be cast iron with leaf strainer and minimum 3 inch outlet or comparable to existing.
- All roof mastic will meet minimum ICBO standard and asbestos free.
- Cant strips will be installed at 90 degree roof to wall areas
- All roof sheathing will be minimum 1/2 inch CDX plywood
- All pipes and duct work will be supported off the roof with redwood blocks or pressure treated lumber.
- All HVAC units will be lifted off their platforms and roofing material applied and a minimum 24 gauge cap install on the platform, then the unit set back down.
- All completed roof shall have designated Walkway Pads for future preventative maintenance.

#### **Option 2.**

Roof material and specifications on ¼” to 3” per foot roof slope:

Facilities Division also uses a torch down application. This system is designed to be applied with a propane torch. Dibiten is the preferred brand name of this type material. One minimum layer of 28-pound fiberglass base sheet is mechanically fastened. A second layer shall consist of a mid-ply Dibiten APP Poly 4 smooth, and then a minimum one layer of Dibiten poly 4.5 FR granular modified bitumen membrane is torch applied with a minimum 4 inch lap and a minimum 6 inch

end lap. This product should be applied according to the manufactures specifications and precautions for fire protection. Roofing system shall meet Title 24 and Cool Roof Ratings.

### **Option 3.**

Roof material and specifications on ¼” to 3” per foot roof slope:

Facilities Division also uses Single Ply membranes. This system is designed to be applied with a heat welding application. Single Ply roofing include TPO and PVC. Membrane is suitable for use in all types of systems: Mechanically Attached, Ballast Applied, and or Fully Adhered. TPO or PVC shall consist of a minimum of 60 Mil Membrane and Installed to Manufacturers Specifications.

### **Roof material for 4 inch per foot slope and greater:**

Facilities Division uses a dimensional architectural grade shingle with a minimum 30 year guarantee. Minimum 30-pound felt paper is applied on a new roof or one that has been removed and the shingles are to applied to a plywood substrate. If the shingles are to be applied over an existing shingle roof, the roof should be cleaned, any high edges of the old roof removed, and then a minimum of 30-pound underlayment felt applied before the new shingles are installed. All roof shingles will be nailed with galvanized roofing nails with a minimum 7/8 inch for new roofs and 1 1/4 inch for re-roof.

### **Wood Shake Shingles:**

Wood shake shingles are not preferred or recommended in the City but if they are to be used, Facilities Division requires that all wood the shingles be treated with a Class “A” fire retardant coating and a medium grade wood shingle.

### **Gutters:**

If gutters and down spouts are installed in new construction, gutters will be protected by leaf screens or approved methods to prevent leaves from accumulation as well as splash blocks to prevent ground erosion and improper run off.

### **Roof Tie off Points**

All new roofs will be equipped with proper tie off points for fall protection according to OSHA requirements.

### **Roof Labor Warranty**

Labor Warranties shall be a minimum of 3 years up to 5 years recommended.

### **All Flat roofs will be flood tested before City accepts Roof.**

Any questions please contact Roofing Building Maintenance Supervisor James (Andre) Hart at 619-525-8554

## Division 8 Doors and Windows

### 1. Doors and frames

- (A) All hollow metal doors will be 16ga exterior, 18ga interiors. Doors will be a honeycomb-core, full edge seam welded with sealed tops.
- (B) Exterior doors that swing out should have non-removable pin type hinges.
- (C) Double doors with panic exit devices should have a mullion between doors.
- (D) Wood doors should be wood stave core, minimum 1 3/4 in. thick by 3'-0" x 7'-0".
- (E) Door not to exceed 8'-0" in height.
- (F) Door stiles should be wide enough to accommodate heavy-duty mortise type locks.
- (G) Steel frames (jambs) will be 14ga. galvanized exterior, 16ga. cold rolled interior. Reinforce all hinge pockets with additional hinge reinforcement straps for high traffic areas.
- (H) Provide roof overhangs at exterior doors or recess entries for weather protection.
- (I) Slope concrete walkways away from doors and set thresholds in mastics for exterior doorways.
- (J) Near coastal areas, and in other applicable corrosive environments doors and frames should be fiberglass.
- (K) All doors will have full mortised hinges, or a continuous hinge. Half surface hinges are not acceptable.

### 2. Storefronts

- (A) Storefronts should have minimum 4" framing and maximum size stiles.
- (B) Storefront doors should be minimum 1 3/4 inch thick by 3'-0" by 6'-8" or 7'-0".
- (C) Provide cylinders keyed to city wide system, (existing system is Best Access Systems)
- (D) Doors not to exceed 8'-0" in. height.

### 3. Windows

- (A) Glazing for windows should be minimum 3/16" thick.
- (B) Operable windows should have secure locking devices and be as vandal resistant as possible.
- (C) Provide window screening for operable windows.

#### 4. Hardware:

### DOOR HARDWARE SPECIFICATION GUIDELINE

Edit Date: Feb.  
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The City of San Diego Lock Shop maintains the following hardware and is currently stocking replacement parts. The products listed herein are to be used without substitution on new construction and modernization projects unless products are listed in this package as an alternate.

It is the intent of this booklet to provide guidelines for the architect's specification section 08710, for product groups and the hardware schedule. It remains the architect's responsibility to coordinate these products to meet the applicable building codes, life safety codes, and ADA requirements.

Section 08710 Door Hardware preamble must specify the following:

#### **Door and Frame prep**

Before hardware installation, verify that all doors and frames are properly prepared to receive the specified hardware. Hollow metal frames shall be prepared for ANSI strike plates per A115.1-2 (4-7/8" high), hinge preps will be mortised and reinforced with a minimum of 10 gauge reinforcement material; minimum of 14 gauge reinforcement material for closer. Hollow metal doors shall be properly prepared and reinforced with a minimum of 16 gauge material for either mortised or cylindrical locks as specified. It is preferred that all hollow metal doors receiving door closers have 14 gauge reinforcement. If this is not possible, the use of sex bolts is mandatory. Wood doors shall be factory prepared to receive the scheduled hardware.

#### **Hardware installation**

The manufacturer's representative for the locking devices and closing devices must be inspected and approve, in writing, prior to the installation of their product.

Hardware installed incorrectly must be reported to the architect prior to the architect final punch list.

## Hanging Devices

Description	Manufacturer	Model/Series	Finish
<b>Mortise Hinge</b>	McKinney	55860 TA 2714 26D NRP at reverse bevel door locks	US 32D
Alternate	Stanley		
<b>Full Surface Hinge</b>	McKinney	57717B TA2714 26D NRP. Use for retrofit doors as appropriate	US 32D
Alternate	Stanley		
<b>Continuous Hinge</b>	Pemko	For high traffic doors	628
Alternate	Markar		
<b>Pivot Hinge</b>	Rixon	180 626 Offset Top Pivot M19 626 Intermediate Pivot	US26D
Alternate	Dorma	75120 626 Offset Top Pivot 75220 626 Intermediate Pivot	

## Securing Devices

Description	Manufacturer	Model/Series	Finish
<b>Mortise Lock Set</b>	Best	45H x J Escutcheon lever as selected by architect	626
Lock Function		Room Type	
A		Entrance Lock	
R		Classroom Function	
D		Storeroom Function	
N		Passage	
L		Privacy	

Provide lock functions as required for project as appropriate

No Alternate

<b>Lock Set</b>	Best	93K x D Rose, lever as	626
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		selected by architect	
Lock Function		Lock Type	
AB		Entrance Lock 9K37 AB 53 626	
R		Classroom Function 9K37 RD4D 53 626	
D		Storeroom Function 9K37D14D 53 626	
N		Passage 9K30N14d 53 626	
L		Privacy 9K30L14D 53 626	

Provide lock functions as required for project as appropriate

No Alternate

<b>Cylinders</b>	Best	Mortise 1E74 x RP3 x cam required	626
No Alternate			
<b>Key System</b>	Best	See bullets below	626

- Removable interchangeable core
- 7-pin Best “Patented/Standard” Existing Best key system
- 7-pin Best “Patented Peaks/CorMax” New Construction
- Best key system
- 2 keys per lockset
- All cylinder and cores must be manufactured by BEST
- All cores are to be keyed into the existing Best Master key system
- Provide all locksets and cylinders with construction cores for contractor use Permanent cores provided at project completion

No Alternate

### Lock Function

<b>Deadbolt Lock/single &amp; cylinder 2 ¾ “ BS</b>	8T37KSTK 626
<b>Deadbolt Lock/single &amp; cylinder 2 3/8 “ BS</b>	7T27KSTK 626

<b>Exit Device</b>	Precision	See bullets below	630
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- 2100 Series Rim x 4900 Trim (single door)
- 2800 Series Concealed Vertical Rod
- 2300 Series Mortise
  - Use Escut. w/lever 4900 where applicable
  - Lever handle shall match lockset design
  - Exits with cylinder dogging at all non rated devices
  - Provide “FL” fire rated devices at label openings

No Alternates

<b>Flush Bolts</b>	Trimco	See bullets below	626
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Use automatic flush bolts where required by fire code.

- Use automatic flush bolts where required by fire code.

- Provide coordinator and brackets as required to meet fire door

Alternate	Rockwood	3917-12-626 Manual Flush bolts	626
<b>Coordinator</b>	Trimco	Mounting Brackets as required	600
Alternate	Rockwood		

### Closing Device

<b>Closer</b>	LCN	See bullets below	689
<ul style="list-style-type: none"> <li>• 4040XP RW/PA TBSRT</li> <li>• 4040XP SHCNS TBSRT</li> <li>• 1461 RW/PA TBSRT</li> <li>• All door frames to be reinforced</li> <li>• Provide “SNB” Sex nuts and bolts as needed</li> <li>• 35-40-EN</li> </ul>			
Alternate	Sargent		

### Automatic Operators Electro-mechanical

<b>Automatic Operator</b>	Stanley	Magic Force Full Energy	689
	Dorma		689

### Stops and Holders

<b>Door Stop</b>	Trimco	Allow for max swing of doors. Backing required at wall stops	630 626
Alternate	Rockwood		
<b>Overhead Stop and Holder</b>	Glynn & Johnson		630
Alternate	Sargent		

### Accessories

<b>Pull</b>	Trimco		630
Alternate	Rockwood		
<b>Push Plate</b>	Trimco		630
Alternate	Rockwood		
<b>Kick Plate</b>	Trimco		630
Alternate	Rockwood		

<b>Armor Plate</b>	Trimco		630
Alternate	Rockwood		
<b>Threshold</b>	Pemko	Furnished as detailed on drawings if shown	628
Alternate			
<b>Door Sweep</b>	Pemko	345V	628
Alternate			
<b>Smoke Seal</b>	Pemko	S88 (verify color)	
Alternate			
<b>Weather Seal</b>	Pemko	303_S (at head/Jambs)	628
Alternate			
<b>Astragal</b>	Pemko	357 SP	600
Alternate			

### Miscellaneous

Manual Key Control	Telkee	Aristocrat wall mounted AWC series Dual tag system. Key capability to accept all keyed locksets plus 50% expansion.
Stand Alone Electronic Lock	Schlage C100 Trilogy DL2700	626 626

- A. Deadbolts will be solid stainless steel (without internal riveted actuator), when deadbolt is extended 1", at least 2" will remain in the lock case.
- B. All levers will be cast solid levers, hollow levers will not be allowed.
- C. Cylindrical lock sets may be used only on interior non-high-traffic openings. Locks will have a replaceable sheer lug which when broken will disable the lever. Clutch mechanisms will not be allowed. Locks will have 7 pin interchangeable cores. Cylindrical locks are not to be used on exterior doors.
- D. All doors and hardware must meet Americans with Disabilities Act and Title 24
- E. Approved manufactures are Best Access Systems or Folger Adams with Best Lock.
- F. Doors in the following locations will have locks which are ANSI series 1000 Grade 1 SECURITY and Grade 1 OPERATIONAL. Locks will meet UL 437 requirements.
  - 1- rooms with narcotics
  - 2- rooms that contain an armory
  - 3- Exterior doors for Police facilities
  - 4- Exterior doors for Court facilities
  - 5- Doors to Judges Chambers
  - 6- Any exterior door which could be in a remote location or subject to high vandalism.

## 5. Keys and keying

- A. All cylinders will be Best 7-pin, interchangeable core and keyed into an existing factory-registered Grand Master key System. All seven pins to be operational.
- B. Furnish permanent cores to City Lock shop for final installation unless provided by manufacturer.
- C. Temporary cores (construction cores) will be installed by Contractor for security purposes. Temporary cores will be keyed alike and interchangeable with Best cores. Cores provided by manufacturer.
- D. Contractor will provide to the City Lock shop copies of Control key and Operating key upon completion.
- E. All keys and cores will have visual key control.
- F. All keys will be stamped "City of San Diego", and "Do Not duplicate".
- G. The Electric Meter Room will have S.D.G.& E. lock installed. The cylinder will be keyed to Schlage key way VTQP AA-10. Three keys are provided with lock. All keys are to be turned over to the City of San Diego Lock shop at completion of the project. The contractor will obtain lock from any contracted S. D.G. & E. Locksmith for installation.

Any Questions, Please Contact Carpenter Supervisor Martin Sorrell 619-525-8550 or Lock shop at 619-525-8552

**Access Control:** Facilities Division has no responsibility or vendor recommendation for these security systems. These systems will be maintained by building occupant or department.

## **Painting:**

### **Division 9 Painting & Finishes**

1. All work will be done in accordance with all applicable codes and regulations.
2. All work will entail the highest degree of craftsmanship as it pertains to the preparation, and application processes.
3. All surfaces to be coated will receive no less than one complete coat of primer and two coats of finish.
4. On most projects and where required, Brick and Masonry surfaces at ground level or where accessible, will receive a non-sacrificial Anti Graffiti coating.
5. Flat paints and finishes will only be used for ceilings, and other areas that are permanently out of reach.
6. Doors will be coated with finishes providing a final sheen of semi-gloss or greater.
7. Painting of steps and stairways shall meet ADA and all Safety codes.
8. All primers will be of the highest quality and the correct product for the intended

application.

9. Before removal of paint on older facilities, facility shall be tested for lead and or asbestos.
10. All projects upon completion shall have walkthrough and punch list shall be completed before sign off of any project.
11. All coatings used will conform to the following guidelines:

***(Production grade materials are NOT acceptable)***

**Acrylic/Latex, water base paints**

*Products will be:*

1. Acrylic resin
2. Ethylene glycol (EG) free
3. Tinted with 100% VOC free tints
4. No less than 35% solids by volume ( $\pm 2\%$ ) and 57% volume by weight ( $\pm 2\%$ ).
5. No less than 20 % prime pigments
6. All paints will have anti-microbial qualities
7. Max VOC = 40 g/l

**Oil based enamels**

*Products will be:*

1. Ethylene Glycol free
2. Silicone Alkyd resin
3. Tinted with 100% VOC free tints
4. No less than 45% solids by volume ( $\pm 2\%$ ) and 64% volume by weight ( $\pm 2\%$ ).
5. No less than 24 % prime pigments
6. Max VOC = 400g/l

**Waterborne Acrylic Urethane**

*Products will be:*

1. Ethylene Glycol free
2. Acrylic Urethane resin
3. Tinted with 100% VOC free tints
4. No less than 40% solids by volume ( $\pm 2\%$ ) and 51% volume by weight ( $\pm 2\%$ ).
5. No less than 19 % prime pigments
6. Max VOC = 0 g/l

### **Waterborne Alkyd Enamel**

*Products will be:*

1. Ethylene Glycol free
2. Waterborne Alkyd resin
3. Tinted with 100% VOC free tints
4. No less than 42% solids by volume ( $\pm 2\%$ ) and 55% volume by weight ( $\pm 2\%$ ).
5. No less than 23 % prime pigments
6. All paints will have anti-microbial qualities
7. Max VOC =50 g/l

**Submittals shall be reviewed and approved by City paint shop or facilities staffs before materials are ordered.**

- Before removal of paint on older facilities, facility shall be tested for lead and or asbestos.
- All projects upon completion shall have walkthrough and punch list shall be completed before sign off of any project.

**Any Questions, Please Contact Paint Supervisor David Mills at 619-525-8546**

### **Division 10 Specialties**

### **Division 11 Equipment**

### **Division 12 Furnishings**

### **Division 13 Special Construction**

### **Fire Suppression and Supervisory Systems**

- 1 Fire Detection and Alarm Systems
  1. Fire Alarm Systems
  2. Smoke Detectors
  3. Heat Detectors
  4. Flame Detectors

5. Manual Station, Bells, AMD Horns
6. Voice Alarm Systems
7. Radio Alarm Systems
8. Telegraph Systems
  
- 2 Automatic Sprinkler Systems
  1. Wet pipe sprinkler system
  2. Dry pipe sprinkler system
  3. Deluge sprinkler system
  4. Pre-action sprinkler system
  
- 3 Water Spray Systems
  - 1 Foam Water Sprinkler Systems
  - 2 Standpipe and Hose Systems
  - 3 Fire Pumps
  - 4 Water Supply Systems
  - 5 Fire Hydrants
  - 6 Fixed Dry Chemical Extinguishing Systems
  - 7 Halogenated Agent Extinguishing Systems
  - 8 Carbon Dioxide Extinguishing Systems
  - 9 Portable Fire Extinguisher
  - 10 Fire Doors and Dampers

Design requirements can be found in the following codes:

- National Fire Protection Association (NFPA)
- OSHA
- Basic Building Code (BOCA)
- Standard Building Code
- Uniform Building Code

Inspection Testing and Maintenance see:

NFPA Inspections, testing and, maintenance manual for details and references.

All Inspections, testing, and maintenance should have:

1. Visual Inspection
2. Test
3. Maintenance
4. Record Keeping on appropriate forms and copies of each
 

1 Annual	TEST + MAINTENANCE FORM
2 Semi-Annual	TEST + MAINTENANCE FORM
3 5-Year	TEST + MAINTENANCE FORM

Copies must be sent to:

1. Local Fire Marshall
2. Building Manager or Facilities Division Coordinator
3. Fire Suppression Coordinator

Any questions please contact Assist. Civil Engineer Scott Lee at 619-525-8583

#### **Division 14 Conveying Systems/ Elevators**

- 1.1 Proprietary equipment of any elevator/escalator equipment will not be allowed in City conveyance system.
- 1.2 Diagnostic Tools and Software Manual:
  - 2 Should elevator/escalator controls require special maintenance equipment or tools, the elevator contractor will provide to the City, all required diagnostic tools and all supporting software documentation required for the complete maintenance of the control and dispatch system and all related elevator/escalator parts. Periodic upgrades and/or calibrations to the diagnostic tools will be provided as required. Elevator contractors will identify and list the type and description of function of the diagnostic tool(s) and control components requiring such tools and submit to the City before acceptance of the elevator/escalator.
  - 3 Diagnostic tools, whether hand-held or built into the control system, will not require recharging or reprogramming. Should recharging, re-calibrating, reprogramming or upgrading and any repair or if replacement of the diagnostic tool should be required, the contractor will provide these services indefinitely to the City immediately upon request at no additional cost for the lifetime of the equipment.
- 1.3 Submittals: As-built wiring diagrams, operating and maintenance manuals will be provided at the machine room, and one set provided to Facilities Division. Other sets will be provided for the facility as required.
- 1.4 Door Opening and Control Device:
  1. Multiple Infrared Light Beam Electronic Sensing Device: Provide new multiple infrared light beam electronic sensing device securely and rigidly mounted on the car between the car and hoist way doors. The sensing device will have a minimum of 40 infrared beam sensors spaced evenly from the floor sill to the header jamb. When the car and hoist way doors are closing, the interruption of the light beam will cause the doors to reverse automatically to the full-open position and the doors to remain open as long as the light beams are interrupted; or, when the doors are in the open position, the interruption of the light beam will cause the doors to remain open as long as the light beams are interrupted. The time interval for the initiation of the door closing operation after light beams are reestablished will be adjustable. The sensing device will have an audible obstruction alarm which can be disabled.

2. Nudging Action: In the event of an obstructed light beam is operated for a predetermined time interval (15 - 20 seconds) after automatic door closing has been initiated, a buzzer will sound and the doors will close with a maximum of 2.5 foot-pounds kinetic energy and at reduced speed. Timers will be adjustable.

3. Variable Timing Features: In the event the light beam is interrupted while the doors are opening or after the doors are fully open, the time that the doors remain open after the beam has been reestablished will be reduced to an adjustable time between one and two seconds, depending upon whether a landing call or a car call predominated. This time will be a minimum time that the doors remain open if the beam is interrupted and reestablished before the door is full open.
- 1.5 Provide door restrictive opening devices.
- 1.6 No equipment, wiring and conduits that are not related to the elevator will be installed in the elevator hoist way and machine room.
- 1.7 Provide one set each of vinyl-covered elevator protective pads for the elevator of the same size.
- 1.8 Provide three sets of all operational keys for the elevator.
- 1.9 Hydraulic elevators will be provided with emergency power system that will activate in the event of power failure and provide power to the hydraulic elevator and close the elevator doors, lowers the elevator to the designated landing, opens the doors allowing the passengers to exit, and then close the doors leaving the elevator at rest. The elevator doors can be re-opened from inside the elevator only if necessary. Upon resumption of power the emergency lowering device will automatically reset itself and the elevator will return to normal service.
- 1.10 The elevator contractor will provide all labor, parts, materials and equipment in order to furnish a complete preventive maintenance service to regularly and systematically examine the elevator equipment and provide the necessary repair and/or replacement for the duration of one year from acceptance of elevator operation.

Any questions please contact Assoc. Civil Engineer Josh Lahmann at 619-525-8567

## **Division 15 Mechanical**

### **Plumbing:**

All City public buildings should be designed to have minimum of 3 women's toilets and 2 sinks. Men's restroom should have minimum 2 toilets, 2 urinals, and 2 sinks.

All facilities will have an accessible Pipe chase with enough clearance to perform basic maintenance and repair work. A floor drain, hose bib, lighting, and power outlet will be in the pipe chase.

### **Materials Recommended for City Facilities**

#### **Underground Plumbing:**

Underground Drain, Waste, Vent (DWV) plumbing: Where code permits all DWV plumbing should be Schedule 40 PVC or Cast-iron pipe

All underground water lines should be Schedule 80 PVC. Avoid installing waterlines under foundation slab. When it is an absolute must underground waterlines under foundation slab should be Copper "L" or Copper "K".

All underground gas lines should be yellow poly-pipe. No underground gas pipe under foundation slab

All Ball Valves installed should be Apollo Full Port and Domestic

#### **Above Ground Plumbing:**

Above Ground Drain, Waste, Vent Plumbing at Comfort Stations should be Schedule 40 PVC where code permits or Cast-Iron Pipe. At other Facilities ABS,PVC, or Cast –iron.

Above ground Water lines should be Copper "L" or Copper "K"

Above ground Gas lines should be galvanized pipe and fittings

All vent penetrations are to have a vandal proof cap installed on roof

Ball valves to be installed on every branch line of hot and cold water systems with stainless steel access panels.

#### **Fixtures Recommended for City Facilities Comfort Stations:**

**Toilets:** Acorn Dura Ware 2100 or 2105- 1.28 gpf with concealed hydraulic Sloan flush valve (in pipe tunnel) with 3" push button

**Lavatories:** Acorn Dura Ware

**Faucets:** Chicago #333-665

**Urinals:** Acorn Dura-Ware 2158 -.125 gpf or .5 gpf with concealed Sloan Hydraulic Flush Valve with 3" push button

**Floor Drains:** Zurn or Smith- ALL floor drains should be min 3" waste line

**Water Pressure Regulators:** Wilkins Model 600XL

**Flushometer:** Sloan

**Drinking Fountains:** Haws Hi/Lo when pedestal installed use HAWS 3500 or 3500D

**Hose bibs:** Acorn Sill Cocks- every bathroom should have aAcorn hosebib with no handle for maintenance

**All Hardware** to be Stainless Steel ( All thread, nuts, uni-strut, etc.)

**Clean-Outs-** Each fixture should have its own full size clean-out wye on vent then reduce vent as needed.

### **Drinking Fountain Sand Traps-**

1. 2" PVC drain with Long Sweep 90 degree elbow connection to fountain drain and wye clean out inside of actual Drinking Fountain.
2. Water shut off and hose bib should be also installed inside of drinking fountain
3. 9 1/2" x 16" concrete yard box set on red brick foundation
4. Sand trap should carry a minimum of 6" of sand below drain line exiting Sand Trap
5. Main water shut off outside of pad in a concrete yard box mandatory
6. Check Drawing

**Outside and Inside Showers at Comfort Stations-** should be plumbed in with a minimum 3" drain line and drain into an approved Sand Trap with easy access lid for pumping out.

**Plumbing Fixtures Recommended for all other City Facilities:**

**Sensor Auto Flush-** TOTO or Zurn

**Toilets-** American Standard, Kohler, TOTO

**Lavatories-** American Standard Lucerne preferred

**Faucets-** 4"Centers Moen in staff areas only. Public areas use Chicago 3300-ABCP self-closing ADA

**Urinals-** American Standard Washbrook preferred, Kohler

**Floor Drains-** Zurn, Smith

**Slop Sinks** – American Standard or Kohler

**Kitchen Sink Faucets-** Moen or Chicago (Commercial Grade)

**Stainless Steel Sinks-** Elkay ADA approved

**Water Heaters** – RUUD or AO Smith

**Drinking Fountains-** Haws High/Lo ADA approved

**Circulation Pumps-** Bell and Gosset or Grundfos

**Hose Bibs-** Acorn Sill Cocks

**Ball Valves-** Apollo full port and Domestic

**Clean-outs-** Clean-outs on all sink, floor drains, and shower fixtures

**It is the contractors responsibility to verify all new and existing waste lines are clear before and after construction. Existing waste lines might need video inspection and hydro jetting.**

**All vent penetrations to have vandal proof cap on roof.**

Any questions please contact Plumber Supervisor Victor Lopez at 619-525-8547

**HVAC:**

1.1.10\_The HVAC crew will assist the Project Engineer during the construction phase and the final walk through as needed. The City Facilities Division HVAC representative will be in discussions with the Architect and Mechanical Consultant during the first design stages of a facility. *An Independence Commissioning Agent shall be assigned to the project in the design stage (recommend no later than 10% design) Commissioning Agent will be involved during the project. Commissioning Agent will perform point to point commission reports, with at least two hard copies and electronic copies to the City.*

- 1.1.11\_ Only the newest models of HVAC equipment and Building Automation Systems will be used. When the designed Automation system or Mechanical Equipment is not of the newest version or design, the most recent version and model will be installed as per the current title 24 requirements.
- 1.1.12\_ All Mechanical submittals will be reviewed thru Facilities Division Electrical crew.
- 1.1.13\_ The Manufactures representative will provide personnel, training on the operation and maintenance of the HVAC equipment, to the City HVAC personnel.
- 1.1.14\_ Technical manuals for the HVAC system and components will be provided to the Facility Maintenance Division HVAC Representative. Minimum of 2 copies will be provided in paper form, and electronic word or and excel.
- 1.1.15\_ Use of underground Chilled Water and Hot Water piping will not incorporate PVC pipe wrapped in PVC jacket. Brazed Copper pipe with PVC jacket is acceptable. Brazed joints are preferred not soft solder. Copper type L is preferred and long radius elbows.
- 1.1.16\_ No refrigerant lines will be installed below grade or within a concrete slab. Unless accepttial access is provided and approved by HVAC shop Personnel.
- 1.1.17\_ No HVAC (Heating, Ventilating & Air Conditioning) duct will be installed below grade or incased within or under a concrete slab.
- 1.1.18\_ All fresh air openings for HVAC system will not be located at ground level, below grade, or within 10 feet of the buildings sewer vents, exhaust vents or storm drain venting. (Per Sec. 317.6 Uniform Mechanical Code) asc
- 1.1.18\_ A/C package units installed on City roofs will be down flow type only.
- 1.1.20\_ All ductwork will have exterior insulation, due to previous building air quality issues. Use or mechanical binding such as wire wrap around the insulation to prevent insulation from becoming lose will be used, tape should not be considered the only source of binding of insulation to duct work. All duct work is to meet or exceed the current title 24
- 1.1.21\_ When natural gas is available at the street; natural gas will be used for all HVAC equipment.
- 1.1.22\_ HVAC unit's-5 ton (60,000 BTUs) or over, will be three-phase power when available.
- 1.1.23\_ Energy efficient design will be incorporated with variable speed pumps. Chiller compressors should be in-closed, in a way as to minimize sound travel- **When a Chiller is incorporated in the design** a central boiler will be used for supplying the facility heating hot water and a scroll chiller will be used for supplying the facility-chilled water system.
- 1.1.24\_ Floor zones will have there own temperature control and independent fan system for controlling the environment independent of neighboring zones.
- 1.1.25\_ Whenever possible, a scroll compressor with the maximum available warranty years offered, will be specified. When water source heat pumps are specified, a minimum of five years for the warranty on the compressor will be required. **Minimum compressor warranty even if optional to be no less than 5 years provided by either manufacture or installing contractor. This includes Recip., scroll and semi hermitic compressors.**
- 1.1.26\_ Extended warranties (five yrs.) will be used for A/C compressors 5 ton and over.
- 1.1.27\_ Package units, 7 1/2 Tons or larger, will have multiple compressors or capacity unloaders for energy savings.
- 1.1.28\_ All refrigerators will be free standing, no built in units or combination units.
- 1.1.29\_ All temperature controls in gyms must be incased or covered by a metal guard box.
- 1.1.30\_ VAV System's 5 ton and over, will be either chilled water or multiple compressor system,

with an adequate airflow bypass. A static bypass damper sensor will be used when a bypass damper is used in a multizone vav system application

- 1.1.31 HVAC systems will use a 365-day time clock, or its equivalent, with battery back up. Features to include Holiday and Daylight Savings Programming. This type of Time clock should be used if a Building Automation System is not installed.
- 1.1.32 Safe and unobstructed access to all HVAC equipment will be provided, for maintenance & repair purposes. Equipment above ceilings should have clear access to all panels and filter removal. Equipment on roofs or equipment areas will have the needed clearance to remove filters and access all panels for service and repair. This clause if for all moving and control components of the HVAC system being installed.
- 1.1.33 Manufacturers minimum clearances will be met, for installation of all equipment. Boiler access for maintenance should include clear service areas for tube punching front and back of service panels not less than the length of the Boiler is long. This will allow for use of tube punching rods.
- 1.1.34 All control wire colors will conform to the equipments color schedule or mechanical wiring diagrams.
- 1.1.35 All terminal blocks and termination points, of the control wiring, will be labeled and identified as to match the submitted drawings & schematics.
- 1.1.36 Only standard size filters to be used, no custom sizes air filters. Standard should be considered as being a stock size air filter. Use of MERV rating 13 should be considered in a 2 inch air filter for the equipment when a 2 inch air filter is in the design. MERV 8 when 1 inch is being used or as design or manufactories specifications.
- 1.1.37 All air filters, and water strainers, will be installed, to maintain easy access for maintenance purposes. If equipment, such as air handlers, fan coils, split systems or heat pumps are installed above ceiling, the use of a T-bar filter housing should be used. The need to remove ceiling tiles to access filters should be avoided.
- 1.1.38 The City of San Diego HVAC Shop personnel, for compatibility of existing Building Management System control will identify standardization of the Energy Management Systems or Building Automation Systems. Example: Trane Voyager package roof tops with a Trane Building Automation system interfacing with the Trane A/C units.
- 1.1.39 There will be 100% compatibility between the Building Automation system and the HVAC equipment. No specialized interfacing between equipment and controls will be used to communicate between the HVAC Equipment and Building Automation System.- ***Avoid the use of Gateways.*** This creates two or more separate control systems within one building. Example, Johnson Controls Metasys as workstation and air handler control, which communicates to McQuay Open Protocol panel which, communicates with Lonworks to communicate with Heat Pumps and Chiller. This is a three party control system, which is not acceptable!
- 1.1.40 The Building Automation System must have the capability to perform demand limiting from the factory and will be able to receive information from a pulse meter supplied by the Utilities Company ***or City real time monitoring system (Tritium).***
- 1.1.41 When a P.C. is specified to accompany the Building Automation System, it should be considered supplied by the department IT staff of the building IT staff where it is being installed (such as a Library). All required software for the system for setup, programming, and daily operations will be provided and the software discs will be given

- to the HVAC Supervisor. If the software for install is used for initial setup and start up, than this software is to be supplied from the controls company and to be considered to be registered for the life of the control system, no less than 10 years.
- 1.1.42\_ Control systems for consideration. Use of WEB Based systems or being in the cloud will be reviewed by City HVAC Supervisor before acceptance for install or design. Control system access should have no added cost to the City or the HVAC Shop. Re-accruing monthly service charge systems should not be considered for install. Use of Intranet (City owned IP Network) systems will be considered for install providing the control system is approved by City IT department. Computers (laptop or desktop) will be reviewed and be considered to be supplied by City IT department associated with the building department contact. Software and Licensing will be provided as a joint effort between City IT and controls contractor, if required. Trend and Alarm data will be stored onsite for a minimum of 30 days and accessed by PC either onsite or remotely. Remotely is preferred method.
- 1.1.43\_ The Building Automation System software will be Windows compatible, i.e. windows 7, with compatible communication software programs preferred by the manufacturer, such as Pro Comm. Plus or Hyper Terminal in Windows. Licensed software must be provided by the installing controls company for at least 3 City owned laptops with Windows 7. The automation system must communicate with the Cities HVAC Shop monitoring system site. (PC's, /Laptops )
- 1.1.44\_ The Use of Software for a graphical application on a local PC is acceptable but must not require a specialized security key connected to any PC or LAN devices. If a key is required for access of the control system, no less than 4 keys will be provided to HVAC Shop and one for the local workstation for a total of 5 keys.
- 1.1.45\_ On site work station requirements for DDC control systems. Specialized software or security cards or chips should not be used this provides extra expenses to the City. The local operating system PC should be an off the shelf type product and current within its design year of start up. No special built PC should be accepted. A local printer will be supplied by installing contractor (such as an ink jet color printer with extra ink cartages as replacement for one time) for the use of system alarms and user login printing.
- 1.1.46\_ The control system should be completely independent in operation and not dependant of other devices within its DDC network. If a loss of communication occurs with the LAN, HVAC Equipment (i.e. rooftop units, air handlers, fans, exhaust fans, chillers boilers and pumps), should operate in occupied mode based on last settings if communication is lost with the work station or daily scheduler if so supplied.
- 1.1.47\_ Building Automation System will be stand-alone. Stand alone should be considered as not requiring a PC or computer work station to be running on the work site. Equipment end devices will not be dependent of a PC to receive Time of Day Schedule, Holidays or On-Off control. Equipment should be able to start without needing personnel to turn something on in the event of a power failure.
- 1.1.48\_ Building Automation System end devices controlling equipment such as Fans and Pumps must have Hand-Off-Auto capability. This includes relays, VFD's or any component that uses on-off control.
- 1.1.49\_ Water and Air Flow switches if used in equipment must be approved by equipment manufacture. These devices must also be compatible with Building Automation System. Water flow proving switch, use thermal flow sensors as primary option, use of paddle

switch as a proving method should be consider for review. The length of the neck of the piping (this is where the paddle is usually connected to the control switch) should not exceed the diameter of the pipe it is being installed in.

- 1.1.50\_ Local PC must be equipped to accomplish a full back-up of PC. Scheduled control system full back up to be performed every month, automatically, without over-writing the previous months back up should be considered as a very desirable option.
- 1.1.51\_ Chillers less than 100 tons should be considered as air cooled condensing only. Use of compressor silencing will be incorporated in the design such as sound blankets. Where condenser coils are exposed to the open side the use of storm guards will be used. Multi staged chillers will incorporate balance compressor run hours. Use of electronic TXV will be used.
- 1.1.52\_ When a new mechanical design is being considered for installation, such as a design new to San Diego, this should first be brought to the attention of the HVAC shop Supervisor for review. HVAC shop Supervisor should be given first right of refusal of a design before it is brought up in a design consideration and at first conceptual thought before our attempts are too late to reconsider a design. When a new design concept is approved by the HVAC Supervisor for install, then the design will include extensive training for City HVAC maintenance staff and extended warrantees will be included against not only the products but the design and installation.
- 1.1.53\_ Boilers to be standardized with most common units, Preferred brands are; Ajax, Rapak, and Laars
- 1.1.54\_ All new pool boiler piping installations shall be CPVC with hangers and supports according to currents building and mechanical codes and title 24.

Any questions please contact HVAC Supervisor Alfonso Jordan at 619-525-8549

## **Division 16 Electrical**

### **PART 1**

#### **1 P.V.C.**

- 1.1.1 All conduits in the ground will be P.V.C. schedule #40, (minimum) 3/4 inch or larger in diameter.
- 1.1.2 All P.V.C. will be buried below ground level and NEVER be in a concrete slab or concrete floor.
- 1.1.3 All stub-ups in P.V.C. will be changed to E.M.T. in walls. Exceptions are outside block walls can be P.V.C. No flexible conduit will be used.

#### **1.2 E.M.T. Conduit**

- 1.2.1 All wiring inside the building will be in E.M.T. conduit.
- 1.2.2 All E.M.T. connector, coupling, and other fittings will be non- cast steel compression

type.

1.2.3 No BX or MC cables allowed.

### **1.3 Rigid Conduit**

1.3.1 All conduit exposed on salt air to be PVC coated.

1.3.2 All conduits exposed below 4 feet of finish grade on walls shall be rigid conduit.

### **1.4 Flexible Steel Conduit**

1.4.1 Only on motor connection and fixture tails, not over 6 feet in length.

### **1.5 Boxes**

1.5.1 Any exposed wiring device box will be cast iron only. No cast aluminum.

1.5.2 Any exposed light fixture junction boxes will be cast iron only. No cast aluminum.

1.5.3 All outdoor outlets will be installed in a recessed stainless steel box with a flush, lockable cover with a 20 amp G.F.C.I. receptacle and on a separate circuit. For gazebos and outside public areas.

1.5.4 Inside wiring device boxes and junction boxes will be at least 4" square by 1 1/8 inch deep.

1.5.5 Electrical, phone, and data floor boxes will be brass type (RFB style Walker) with tamper – proof screw cap only. All brass covers will be flush with the floor. Floor monuments are not acceptable.

1.5.6 Flat wiring will not be used.

### **Wire**

1.6.1 All wiring will be stranded, copper THHN type, including all #12 A.W. wire.

1.6.2 Minimum wiring size will be #12 A.W.G. stranded.

1.6.3 One neutral for every one circuit pulled. No sharing on neutral wires anywhere.

### **Marking and Names Plates**

1.7.1 Name plates: Furnish and install a minimum size of 1" high and 3" wide by 3/32" thick matte white (for normal power) and red (for emergency power) laminated phenolic nameplates with 1/4" white characters engraved in the plastic for all items of electrical equipment including, but not limited to switchboards, panel boards, automatic transfer switches, motor control centers, feeder circuit breakers, relays, time switches, disconnect switches, exposed pull or junction boxes, and all control equipment. Name plates will be attached with 2 cadmium-plated screws. Adhesive attachment will not be acceptable. Punch strip tape type name plates with card holders in any form are prohibited.

- 1.7.2 Provide wire marker on each conductor in electrical panel pull box, outlet, and junction box. This includes all disconnects and connections. \*If more than one neutral conductor is present, mark each related circuit and panel number.
- 1.7.3 Label outside of all cover plates of wiring devices and junction boxes with circuit and panel number. Each branch circuit device cover plate will be labeled (engraved or silk screen) to indicate the branch circuit and panel number. Devices will include, but not be limited to, the following: toggle switches, dimmer switches and receptacle.

## **Grounding**

- 1.8.1 All raceways will include a full size green insulated ground wire terminated at each outlet box, device enclosure, etc. and connected back at the panel boards, switchboard or cabinet on the appropriate ground bus.
- 1.8.2 The green insulated ground (bond) wire will be spliced together within the outlet box. A green insulated bonding jumper will be provided from the splice to the box body. Attachment to the box body will be provided using a tapped #10-32 x 3/8" screw minimum. A green insulated bonding jumper will be provided from the splice to the receptacle ground screw even with self grounding receptacles. **Devices and Cover Plates**
  - 1.9.1 Wall switches - 20 AMP 120v/277v Industrial Type Specify:
    - a. Hubbell: HBL 1221 or equal.
    - b. Decorator Type: Hubbell DS 120-20 amp
  - 1.9.2 Duplex Receptacle 20 AMP 120v/277v Industrial Type Specify:
    - a. Hubbell - (20 AMP) # HBL 5362 or equal.
    - b. Decorator Type DR 20DR
  - 1.9.3 All devices are to have clamp style side/ back connections for stranded wire only. All receptacles shall be pigtailed out so only one Color wire, a neutral wire, and a ground wire is connected to the back of the receptacles.
  - 1.9.4 All receptacles and switches on emergency power will be RED.
  - 1.9.5 All receptacles in public areas shall be tamper-proof.
    - a. Hubbell - HBL 8300SGA
    - b. Decorator Type DR20TR

## **PART 2**

### **2.1.0 Hand Dryers**

- 2.1 Install at least one hand dryer 2000 watt in each restroom. City Standard is the 120 volt Semi Flush World hand dryer 120 volt semi-flush. In pipe chase applications, use 120 volt Fastair, model HO3.

### **2.2.0 Exit Signs**

2.2.1 All exit signs will have LED lighting Components and the voltage being 120v or the 277v series, Atomic exits signs are no longer used due to hazardous waste issues.

2.2.2 L.E.D. exit signs are good, and the battery need to last 3 to 5 years.

### **2.3.0 Emergency Battery Systems**

2.3.1 The number on chose is to use the emergency lighting wall pack that are battery operated and comes equipped with a self testing mode. The second option would be an emergency lighting inverter which would be of a specific manufacture that would be considered City Standards Is the Myers Illuminator E series light inverters for emergency lighting with front access terminal batteries. Do not use emergency ballast in light fixtures for a emergency lighting system.

### **2.4.0 Low Voltage System for Title 24**

2.4.1 Avoid low voltage programmable systems. If a system must be installed use it for only large rooms over 5000 feet, in all other areas use normal switching methods, and use only the City Standards type Cooper Green Gate lighting inverters with touch screen and software. Use Tork Time clock 7200ZL for outdoor lighting controls. Also, all software manuals and training to program the lighting system must be given to Facilities Division Electricians no later than on the final walk thru. Training to program the system must be given to Facilities Division Electrician no later than on final walk thru.

## **PART 3**

### **3.1.0 Light Fixtures**

3.1.1 Reduce the number of decorative and display light fixtures where possible.

3.1.2 Light fixtures will be high quality, long lasting, brand name, Energy Efficient and made in the U.S.A., with easy to replace lamps. The number of different types of fixtures must be kept to a minimum and the ease of re-lamping must be a major consideration in fixture selection.

3.1.3 Standard 4 foot LED fixtures are most desirable in the general area.

3.1.4 Metal Halide, indirect light fixtures are no longer used in high ceiling such as Gym lighting for baskets courts. The six lamp T5 fluorescent lights are now the standards.

3.1.5 All recessed cans shall be LED type fixture.

3.1.6 Do not use low voltage light fixtures. For example: fixtures that take MR16 lamps.

### **3.2.0 Outside Light Fixtures**

3.2.1 All outside light fixtures will have polycarbonate lenses and vandal resistant screws. City Standard is Kenall S-711 LED and or for restroom/ comfort station. For inside lighting use the Kenall H-1212 LED type.

- 3.2.2 Install light fixtures for library sign, book drop and all outside door openings.
- 3.2.3 Wall mounted light fixtures will be used for general outside area for security and safety.
- 3.2.4 Libraries will be well lit inside and out. For security purposes.
- 3.2.5 Avoid small light fixtures in steps, use pole or wall lights.
- 3.2.6 Avoid tree lights that are mounted above the ground (i.e., Pacific Beach Library).
- 3.2.7 Avoid in ground lights (i.e., Mira Mesa Library) because of water resistance issues. If it is necessary use only brand name City Standard Hydrel.
- 3.2.8 Avoid low voltage light fixtures. Example: fixtures that require MR16 lamps.
- 3.2.9 Heavy duty mounting will be needed for all outside light fixtures.
- 3.2.10 Parking lot pole light are necessary in all parking lots.
- 3.2.11 We encourage wall mounted light fixtures on the building.
- 3.2.12 All exterior building lighting will have separate circuits from exterior pole lighting.

### **3.3.0 Time Clocks**

- 3.3.1 All time clocks will be City Standard Tork Electronic Astronomical, 40 amp contact. No substitutions.
- 3.3.2 Lighting contractor will be necessary if more than 2 circuits for outside lights. Install hand, off, automatic switch or bypass switch for testing during the day for outside lights. Photo cells on parking lot light fixtures are not allowed.
- 3.3.3 Inside lights will be on lighting contractor controlled by separate time clock or switches.

### **3.4.0 Lamps**

- 3.4.1 In new buildings provide a spare case of lamps for every type used, including M.H., incandescent, H.P.S., L.P.S. and fluorescent lamps. Provide no later than final walk thru.
- 3.4.2 Do not use incandescent lamps.
- 3.4.3 Low pressure sodium lamp are use only in parking lot lights.

- 3.4.4 When possible install LED or Fluorescent lamps
- 3.4.5 Standardize with 4 foot fluorescent energy 32 watt cool white T-8 lamps.
- 3.4.6 Use brand name electronic ballast, 5 year warranty. GE, Advance... etc.
- 3.4.7 Reduce the number of decorative and display lamps.
- 3.4.8 Provide fixture location that allows easy lamp replacement, this is a major problem.
- 3.4.9 Brand name lamps are a must.
- 3.4.10 Outside lamps will be LED (general lighting) LED (signs) and LED (for security).

**PART 4**

**4.1.0 Conduits, Raceways and Boxes**

- 4.1.1 All Flexible conduits will have a green ground wire. It will only be used for motor connections, fixture tails, or used in existing walls (6” or less). Non-metallic or sealtite will be used in damp locations and machinery rooms.
- 4.1.2 Conduit run above suspended ceilings will be supported from the building structure independently and will be run with sufficient clearance from the ceiling system to permit the tiles to be removed and to allow full access to the space above.
- 4.1.3 Roof top conduits (rigid steel) will be neatly grouped and installed parallel to the building lines. Support for conduit shall be rubber sleepers with unistrut on top.
- 4.1.4 Home runs will be a minimum of 3/4" conduit. 1/2" can be used to supply a single termination (e.g., conduit going from switch box to single light fixture).
- 4.1.5 Junction and Switch boxes shall be a minimum of 4” square in size and a minimum of 2-1/8” deep.

**4.2.0 Wires and Conductors:**

4.2.1 All insulation in AWG sizes 8 and below will be impregnated with color according to the following:

<u>480/277 volts</u>		<u>208/120 volts</u>
Phase A	Brown	Black
Phase B	Orange	Red
Phase C	Yellow	Blue
Neutral	Gray	White
Ground	Green	Green

Where color other than black is not an integral part of insulation use 3M No. 35 tapes in the same color code to identify both ends of conductors No. 6 and larger. Use other colors as required to identify control or other special circuits. Ground conductor will have green insulation for 1/0 or smaller conductors, green tapes on other colors of insulation are NOT acceptable. All neutral wires shall be white with phase stripe running along entire length.

#### **4.3.1 Light fixtures commonly used by the City of San Diego:**

##### **4.3.2 Indoor/Outdoor**

1. Gym light fixture- Six lamp T-5 fluorescent light fixtures controlled by barrel switches.
2. Compact fluorescent - Eclipse 26 watt CMK series or equal to. Must be a low profile 15x15 square.
3. Ceiling mount fluorescent - Kenall, No. H1212L.C., 13X 2 – 120 volt 4 pin 26w fluorescent.

##### **4.3.3 Outdoor Security Lighting**

1. Kendell S-711 LED is preferred and the Kendell H-1212 LED is also preferred, Eclipse also as described above.
2. Cooper Wall PAC 40-80 watt
3. In ground – Hydrel Co. Only (Tree lights). Must place at least two inches of gravel around fixture for drainage.

#### **4.4.0 Switchgear and Electrical Panels**

##### **4.4.1 A. Supply 25% spare breaker space in all panels and copper bus.**

- B. Provide 25% more ampacity for electric panels above calculated load requirements.
- C. Provide a 3/4 inch conduit for each three spares or spaces in all flush mounted power or lighting panel boards. Route conduit to accessible space above the ceiling.
- D. All panels will have bolt on breaker, copper buss, and full size neutral-ground bar.
- E. Main Switch and all circuit breakers will be supplied with a name plate adjacent to each device as specified under Marking and Name plates.
- F. Fusible Switches: (heavy duty) switches, with fuses of classes and current ratings indicated. See Section Fuses for specifications. Where current limiting fuses are indicated, provide switches with non-interchangeable feature suitable only for current limiting type fuses. Each fusible disconnect switch will be equipped with a blown fuse indicator module.

##### **4.4.2 Fuses**

- A. Fuses will be low peak RK1 class ARC rejection type.
- B. Fuses serving motor loads will be dual element with a minimum time delay of 10 seconds at 125 percent rating. Fuses will be current limiting time delay type with interrupting capacity of 200,000 ampere RMS symmetrical minimum.
- C. Fuses will be Bussman or Gould low peak, only.  
Provide spare fuses in the amount of ten percent of each size and type installed, but not

less than three; delivered to the Owner upon final acceptance of the project. Provide and install fuse cabinet in the electrical room for storing these extra fuses.

- D. Install 24 X 18” metal frame in the electrical room and include a “one line” electrical diagram of the building.

#### 4.4.3 Transformers:

- A. Attach incoming and outgoing conduits to the transformer case with approximately 18 inches of flexible conduit to reduce noise transmission. Provide separate grounding jumper when using flexible conduit.
- B. Maintain a minimum of 1'-0" free air space between transformer and walls.
- C. All transformers will have name plates showing its rating, circuit number it is fed from and panel it is feeding.
- D. Install transformers on seismic style vibration isolator pads (feet).

#### 4.4.4 Generators, Motors, Controllers and Fire Alarms

- A. Generator KW rating must be at least 10% more than calculated load for future use requirements. Kohler generators only. Documentation and repair manuals will be supplied.
- B. Motors will be energy efficient with sealed bearings.
- C. Programmable logic controller (PLC): The contractor will furnish, to the City a licensed copy of the software for the PLC and all files and hard copies of the ladder logic with reference documentation.
- D. Fire Alarms: Use only Edwards, Notify, or Simplex fire alarms.

## PART 5

### Designs, Submittals and Final Walk-Thru

#### 5.1 Design

The architects' electrical engineer must consult with the City of San Diego's Facilities Division personnel during the design phase and throughout the project. The City staff has developed standards that must be incorporated into the plans and specifications. Please route thru General Services/ Facilities Division, Electrical Crew. M.S. 20, Phone 525-8524.

#### 5.2 Submittals

All electrical submittals will be reviewed thru Facilities Division Electrical crew. All comments will be in writing within five days. This is very important to us in Maintenance so that we get the item that is equal or spec. out. Especially light fixture, switches, recept. and electrical equipment.

#### 5.3 Final Walk Thru

All manuals and training on all electrical system will be done at this time, which includes, but

not limited to: testing of emergency systems, time clocks, lights, and exhaust fans. Provide one set of blue prints, spec book, and submittals.

#### **5.4 Manual and Documentation**

The Contractor will furnish operation and maintenance manuals for each electrical system and for each piece of equipment. The complete manual, bound in hardback binders, or an approved equivalent will be provided to the Owner's Representative. The number of copies will be as indicated in Division 1. One manual will be furnished prior to the time that the system or equipment tests are performed to the electrical shop:

City of San Diego  
Public works / Facilities Division  
Electrical Section MS# 20  
San Diego, CA 92102

The remaining manuals will be furnished before the contract is completed. The following identification will be inscribed on the cover; the words OPERATING AND MAINTENANCE MANUAL, the name and location of the building, the name of the Contractor, and the contract number.

The manual will include the names, address, and the telephone numbers of each Subcontractor installing equipment and systems, and of the local representatives for each item of equipment and each system. The manual will have a table of contents and be assembled to conform to the table of contents with tab sheets placed before instructions covering each subject. The instruction sheets will be legible with large sheets of drawings folded in. The manual will include, but not limited to, the following:

- A. System layout showing components.
- B. Devices and controls.
- C. Wiring and control diagrams showing operation and control of each component.
- D. Sequence of operation describing start-up, operation, and shutdown.
- E. Functional description of the principal system components.
- F. Installation instructions.
- G. Maintenance and overhaul instructions.
- H. Lubrication schedule including type, grade, temperature range, and frequency.
- I. Safety precautions, diagrams and illustrations.

#### **Training:**

User staff and maintenance personnel will be thoroughly trained (minimum of 4 hours) in the use of each electrical system or major piece of equipment installed. This training will be provided as a part of the Contractor's bid to supply the system or equipment. Additional training requirements, will be as specified in the subsequent sections of Division 16.

It will be the responsibility of the Contractor to provide equipment with the proper electrical characteristics for the electrical service provided. All necessary electrical components to provide

a complete system will be furnished.

Any Questions, Please Contact Electrical Supervisor Walter Hegard at 525-8548.

**EXHIBIT E**  
**BIOLOGICAL SURVEY REPORT**



**Biological Survey Report for the  
North University City  
Fire Station 50 Project,  
San Diego, California**

*Prepared for*  
Mr. Jasiah Neff  
City of San Diego  
Engineering & Capital Projects  
525 B Street, Suite 750  
San Diego, CA 92101

*Prepared by*  
RECON Environmental, Inc.  
1927 Fifth Avenue  
San Diego, CA 92101  
P 619.308.9333

RECON Number 7617  
February 20, 2017

A handwritten signature in black ink, appearing to read "B Parker".

Brian Parker, Associate Biologist

# TABLE OF CONTENTS

<b>Acronyms.....</b>	<b>iii</b>
<b>1.0 Summary .....</b>	<b>1</b>
<b>2.0 Introduction .....</b>	<b>2</b>
2.1 Project Location.....	2
2.2 Project Description .....	2
<b>3.0 Survey Methods .....</b>	<b>8</b>
3.1 Biological Resources Survey.....	9
3.2 Rare Plant Surveys .....	9
3.3 Coastal California Gnatcatcher Surveys .....	10
3.4 Wildlife Surveys .....	11
3.5 Jurisdictional Wetlands and Waters .....	11
<b>4.0 Existing Conditions.....</b>	<b>12</b>
4.1 Topography and Soils.....	12
4.2 Botany.....	13
4.3 Zoology.....	18
<b>5.0 Sensitive Biological Resources.....</b>	<b>20</b>
5.1 Regulatory Setting .....	20
5.2 Sensitivity Criteria.....	21
5.3 Sensitive Vegetation Communities.....	21
5.4 Sensitive Plants.....	21
5.5 Sensitive Wildlife Species .....	22
5.6 Jurisdictional Waters/Wetlands.....	27
5.7 Multi-Habitat Planning Area.....	27
5.8 Wildlife Movement Corridors.....	27
<b>6.0 Impact Analysis.....</b>	<b>28</b>
6.1 Direct Impacts .....	28
6.2 Indirect Impacts .....	34
6.3 Jurisdictional Waters/Wetland Impacts .....	36
6.4 MSCP Consistency Analysis .....	36
<b>7.0 Mitigation.....</b>	<b>42</b>
7.1 General Mitigation Measures During Construction.....	43
7.2 Mitigation for Impacts to Vegetation/ Land Cover Types .....	45
7.3 Mitigation for Impacts to Wildlife Species.....	47
7.4 Land Use Adjacency Guidelines Mitigation Monitoring Measures .....	48
<b>8.0 References Cited.....</b>	<b>51</b>

## TABLE OF CONTENTS (cont.)

### FIGURES

1:	Regional Location of the North University City Fire Station 50 Project.....	3
2:	Project Site Location on USGS Map.....	4
3:	Project Location on City 800' Map.....	5
4:	Project Location on Aerial Photograph.....	6
5:	Project in Relation to Existing Preserve Areas.....	7
6:	Soil Types.....	14
7:	Existing Biological Resources.....	15
8:	Impacts and Mitigation.....	30

### TABLES

1:	Survey Dates, Times, and Weather Conditions for Surveys at the North University City Fire Station 50 Project.....	10
2:	Vegetation Communities/Land Cover Types within the Survey Area.....	13
3:	Impacts to Vegetation Communities/Land Cover Types.....	28
4:	Mitigation For Impacts to Vegetation Communities/Land Cover Types.....	46

### ATTACHMENTS

1:	Plant Species Observed on the North University City Fire Station 50 Project Site
2:	Wildlife Species Observed/Detected on the North University City Fire Station 50 Project Site
3:	Sensitive Plant Species Observed or with Potential for Occurrence on the North University City Fire Station 50 Project Site
4:	Sensitive Wildlife Species Occurring or with the Potential to Occur on the North University City Fire Station 50 Project Site
5:	City of San Diego Biological Impacts & Monitoring MMRP Conditions

# Acronyms

ADD	Assistant Deputy Director
AMSL	above mean sea level
APN	Assessor's Parcel Number
BCME	Biological Construction Mitigation/Monitoring Exhibit
BMPs	Best Management Practices
BMZ	Brush Management Zone
Cal-IPC	California Invasive Plant Council
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of San Diego
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSVR	Consultant Site Visit Record
dB(A)	A-weighted decibels
ED	Environmental Designee
ESA	Endangered Species Act
ESL	Environmentally Sensitive Lands
GPS	Global Positioning System
I-805	Interstate 805
LDC	Land Development Code
MBTA	Migratory Bird Treaty Act
MHPA	Multi-Habitat Planning Area
MMC	Mitigation Monitoring Coordination
MSCP	Multiple Species Conservation Program
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

# 1.0 Summary

The City of San Diego (City) proposes to construct and operate the North University City Fire Station 50 (proposed project). The project site is located within the University City community within the City, west of Interstate 805 (I-805), immediately south of Nobel Drive, and immediately east of Shoreline Drive. The development footprint of the project would comprise a total of 0.92 acre. The three-story, 12,000-square-foot fire station would accommodate 10 personnel and equipment in order to provide emergency response times that meet national standards within the North University City area.

The proposed project would impact a total of 0.94 acre, including 0.79 acre within the Multi-Habitat Planning Area (MHPA) and 0.15 acre outside the MHPA. This impact footprint is larger than the development footprint because it includes small slivers of vegetation that occur between the grading footprint and existing developed areas. These isolated areas would no longer be viable and are considered impacted. Three sensitive vegetation communities would be impacted: valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland. These impacts would require 0.742 acre of mitigation within the MHPA, which would be achieved through (1) preservation of similar habitat within the MHPA, (2) restoration and preservation of habitat within the MHPA, and/or (3) contribution to the City's Habitat Acquisition Fund. The total project impact represents less than 1 percent to the total lot acreage (92 acres), which is far below the 30 percent allowed per Section II.A.2 and II.B of the City's Biology Guidelines (2012) for essential public facilities, such as the proposed fire station. Because total direct impacts are below this 30 percent threshold, an MHPA boundary line adjustment would not be required.

Two sensitive plant species were detected within the survey area: ashy spike-moss (*Selaginella cinerascens*) and San Diego county viguiera (*Bahiopsis laciniata*). The project would impact an approximately 6-square-foot patch of ashy spike-moss, but would avoid impacts to San Diego county viguiera. Impacts to ashy spike-moss would not be considered significant, due to the relatively small number of individuals affected and the low sensitivity status of the species.

Two sensitive wildlife species were detected within or adjacent to the survey area: Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*) and western bluebird (*Sialia Mexicana occidentalis*). Additionally, red diamond rattlesnake (*Crotalus ruber*), coast horned lizard (*Phrynosoma coronatum blainvillii*), Cooper's hawk (*Accipiter cooperii*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego desert woodrat (*Neotoma lepida intermedia*) have moderate to high potential to occur. Protocol surveys were conducted for coastal California gnatcatcher (*Poliophtila californica californica*), as well as a directed search for southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), but neither species was detected. The project would cause direct impacts to Belding's orange-throated whiptail, red diamond rattlesnake, coast horned lizard, coast horned lizard, and San Diego desert woodrat. Impacts to these species would be mitigated with the 0.742 acre of habitat-based mitigation described above for impacts to vegetation communities.

In accordance with the federal Migratory Bird Treaty Act, the project would also address potential impacts to nesting migratory birds. A pre-grading survey would be conducted to determine the presence or absence of nesting migratory birds within the project site. If nesting birds are identified, mitigation measures would be implemented to avoid impact to these birds. No construction would be allowed within 300 feet of any identified coastal California gnatcatcher nests (or other distance consistent with the City's Multiple Species Conservation Program (MSCP) Subarea Plan and 2012 Biology Guidelines and Wildlife Agency requirements). Such construction setbacks shall remain in place until the fledglings are independent of the nest.

## **2.0 Introduction**

### **2.1 Project Location**

The project site is located within the University City community in the northern portion of the City (Figures 1, 2, and 3). The project site is situated in the southwest corner of Assessor's Parcel Number (APN) 345-01-124, which covers approximately 92 acres and extends north across the athletic fields north of Nobel Drive and east to I-805. The project site is within the U.S. Geological Survey (USGS) La Jolla quadrangle, Township 15 South, Range 3 West, on unsectioned lands within the Pueblo Lands of San Diego land grant (USGS 1996; see Figure 2). An aerial view of the project site and survey area is shown on Figure 4. The project site is within the City's MSCP Subarea Plan (City of San Diego 1997) boundary, and it lies largely within the MHPA (Figure 5).

A portion of the project site was identified in 1996 as a mitigation parcel for the Eastgate Technology Park development (see Figure 5). This parcel was designated "Conserved Lands" per Resolution No. R-287317 and Environmental Impact Report No. 35-0386.

### **2.2 Project Description**

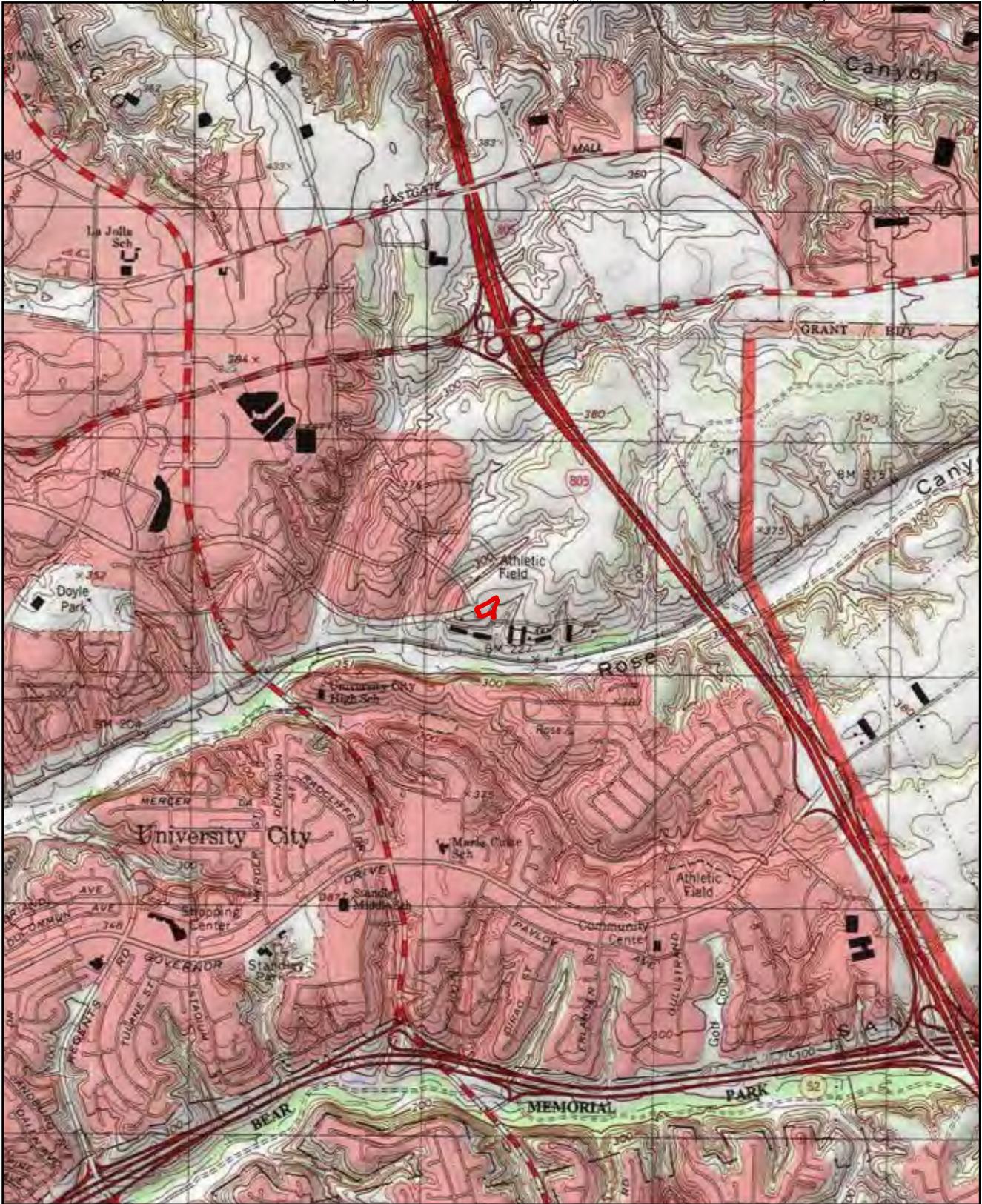
As previously detailed, the proposed project comprises the construction and operation of a three-story, 12,000-square-foot fire station. The fire station would include a workshop, vestibule, watch room, exterior patio, and associated components that would house 10 crew members at all times, with a shift change typically occurring at 7 a.m. The project also includes an apparatus bay with three "slots" for storage of the fire engines and ambulances. Other on-site components include a 14-space parking lot that would have a gated entry; a storage area for a fuel tank, generator, and transformer; and a trash enclosure. Three 75-foot-wide flow-through planters would be provided in the southern portion of the site that would treat and detain all storm water runoff on-site. Native landscaping would be provided throughout the project site.

Construction for the project would begin with clearing and grubbing of the site, followed by grading for the fire station building pad, parking lot, and driveways. Grading operations would entail 4,300 cubic yards of excavation, with a maximum cut depth of 10 feet. Fill quantities would be 1,600 cubic yards, with a maximum fill depth of 10 feet. Approximately 2,700 cubic yards would be exported.



 Project Site

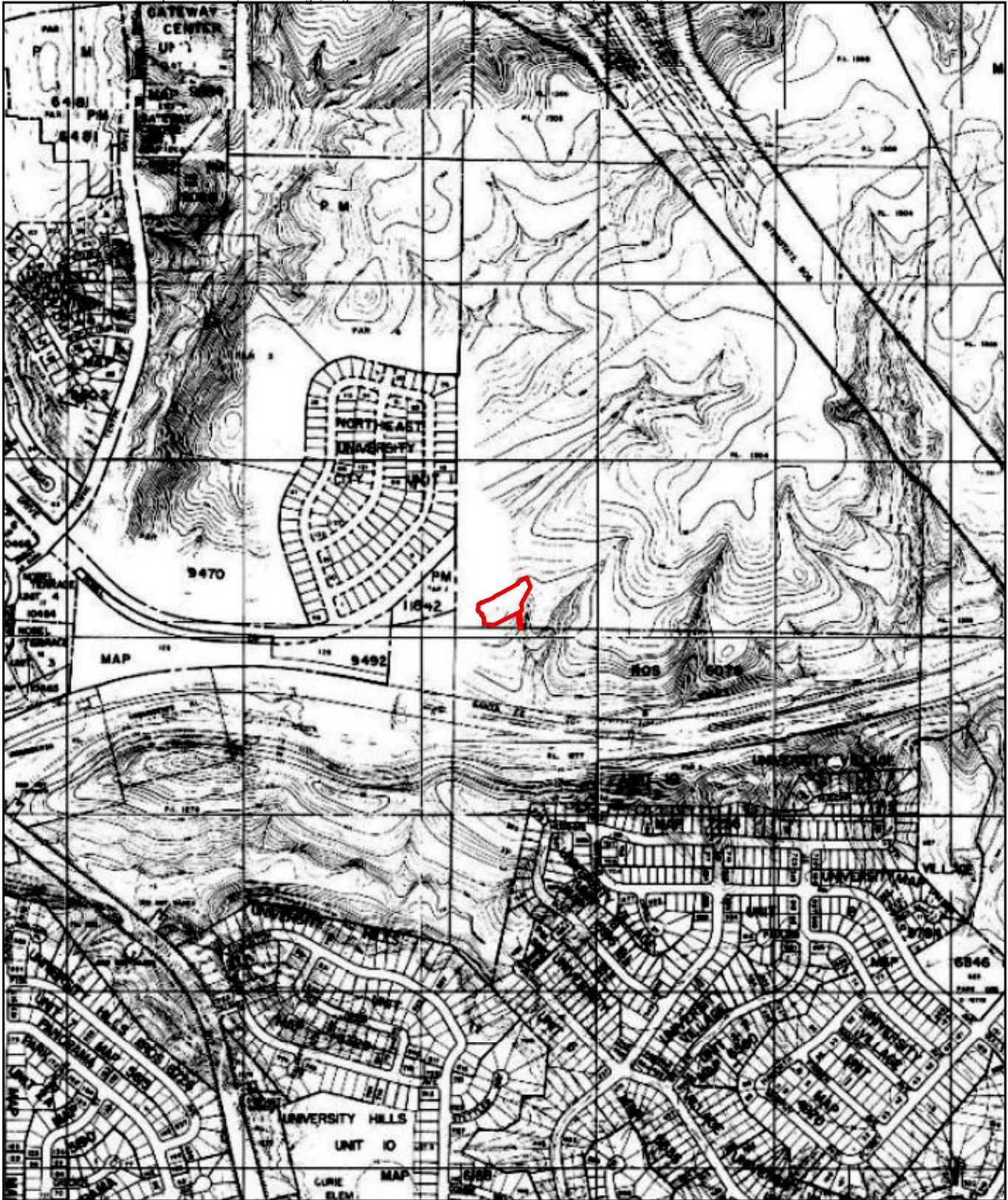
**FIGURE 1**  
**Regional Location of the North University City**  
**Fire Station 50 Project**



 Project Site

FIGURE 2

Project Site Location on USGS Map

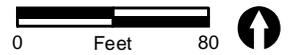


 Project Site



FIGURE 3

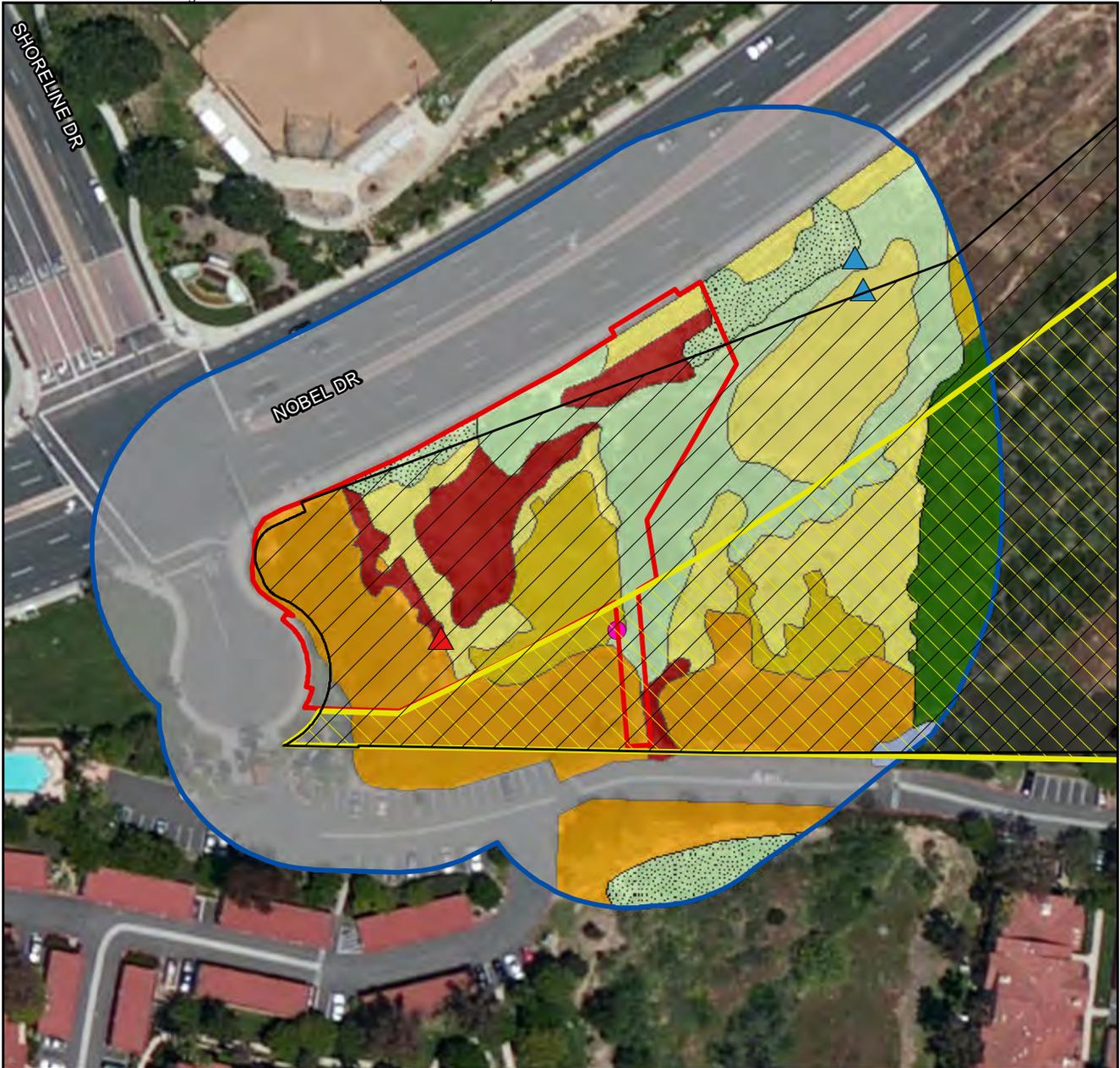
Project Location on City 800' Map



 Project Site  
 Site Plan

FIGURE 4

Project Location on Aerial Photograph



Project Site

Survey Area

City of San Diego MHPA

Eastgate Technology Park Mitigation Area

**Sensitive Species**

San Diego County Viguiera (*Bahioipsis laciniata*)

Ashy Spike-moss (*Selaginella cinerascens*)

Belding's Orange-throated

Whiptail (*Aspidoscelis hyperythra beldingi*)

**Vegetation Communities**

Urban/Developed Land

Diegan Coastal Sage Scrub

Diegan Coastal Sage Scrub - Disturbed

Disturbed Land

Valley Needlegrass Grassland

Non-native Grassland

Ornamental Plantings

Southern Mixed Chaparral

Southern Willow Scrub



The project would add an entry/exit point to the cul-de-sac on east side of Shoreline Drive and an exit point on Nobel Drive. The project would also require a break in the median on Nobel Drive for emergency responses in which the fire engine/truck would need to turn left heading westbound on Nobel Drive. The traffic signal at the intersection of Nobel Drive and Shoreline Drive would be retrofitted to allow for automatic pre-emption by emergency vehicles exiting the station. In accordance with San Diego Municipal Code Section 142.0412, the proposed project would include a total of 100 feet of brush management from all habitable structures. This includes 35 feet of brush management zone (BMZ) 1, where vegetation must be absent or regularly maintained by thinning and pruning of plants to below 4 feet in height, and must be permanently irrigated. BMZ 2 would extend the remaining 65 feet and would be maintained on a regular basis through weed and invasive species control, and selective thinning and pruning of shrubs to reduce fuel load. For purposes of impact analysis, BMZ 1 is considered a permanent impact, whereas BMZ 2 is considered impact-neutral because it is allowed to remain in a mostly natural state. Most of BMZ 1 lies within the grading footprint, though a small portion extends into Nobel Drive to the north. Similarly, most of BMZ 2 lies inside the grading footprint or in existing developed areas, but it also extends a small way into the adjacent habitat to the south.

This report provides the necessary biological data and background information required for an environmental analysis according to guidelines set forth in the MSCP Subarea Plan (City of San Diego 1997) and the City's Biology Guidelines (City of San Diego 2012).

### **3.0 Survey Methods**

Baseline biological resource data for the project site was obtained from the North University City Fire Station Draft Biological Constraints Report prepared by Helix Environmental Planning (Helix; 2013). These data were updated during field reconnaissance visits conducted by RECON Environmental, Inc. (RECON) biologists. Additional biological resource surveys conducted for the project include updated protocol surveys for the coastal California gnatcatcher, rare plant surveys, and several site reconnaissance surveys. In addition to conducting on-site biological surveys, RECON conducted a review of the California Natural Diversity Database (CNDDB; State of California 2015e), the All Species Occurrences Database (U.S. Fish and Wildlife Service [USFWS] 2015), and the California Native Plant Society (CNPS) online database (CNPS 2015) for records of sensitive plant and animal species reported within one mile of the survey area.

For purposes of this report, the project site is defined as the area within the grading footprint of the proposed project. For vegetation mapping, rare plant surveys, and reconnaissance surveys, the survey area is defined generally as all land within 100 feet of the project site and was expanded to include habitat creation and restoration areas, as well as the immediately surrounding area. For protocol coastal California gnatcatcher surveys, this survey area was extended out to 300 feet, in accordance with the USFWS survey protocol for this species (USFWS 1997).

Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon site visits by RECON biologists, the Biological Constraints Report prepared by Helix (2013), as well as known ranges and habitat preferences for the species (Jennings and Hayes 1994; Unitt 2004; State of California 2015a–d; CNPS 2015; Reiser 2001), existing topography and soils within the survey area (USGS 1997; U.S. Department of Agriculture 1973), species occurrence records from the CNDDDB (State of California 2015e) and the All Species Occurrences Database (USFWS 2015).

### **3.1 Biological Resources Survey**

Initial vegetation mapping for the project was conducted by Helix on June 26, 2013. Based on changes to the project footprint and overall site conditions, vegetation mapping was updated by RECON biologists Brian Parker and Andrew Smisek on November 5, 2015. The entire survey area (the project site boundary plus 100 feet) was surveyed on foot and vegetation communities were mapped according to City guidelines (City of San Diego 2012). Vegetation community classifications follow Holland (1986) as modified by Oberbauer (2008).

Plant and animal inventories were compiled during the initial constraints survey (Helix 2013). These inventories were revised and updated during subsequent RECON surveys: the plant species inventory was updated during the rare plant surveys (see Section 3.2, below) and the animal species inventory was revised based on the protocol coastal California gnatcatcher surveys (see Section 3.3, below).

Animal species observed directly or detected from calls, tracks, scat, nests, or other sign were noted. The wildlife survey was limited by seasonal and temporal factors. Nocturnal animals were not observed directly, as all surveys were performed during the day. In addition, seasonally migratory species that are present within the area only at specified periods outside of survey timing may not have been detected. Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (2015) and Unitt (2004); for mammals with Baker et al. (2003); for amphibians and reptiles with Crother et al. (2009); and for invertebrates with Opler and Wright (1999) and Evans (2007). Floral nomenclature for common plants follows Hickman (1993) as updated by the Jepson Online Interchange (Jepson Flora Project 2014) and for sensitive plants the State of California Special Vascular Plants, Bryophytes, and Lichens Lists (2015d).

### **3.2 Rare Plant Surveys**

RECON botanist JR Sundberg conducted three rare plant surveys. Survey dates, times, and weather conditions are listed in Table 1, below. All portions of the survey area were traversed via meandering paths to map sensitive plant species. The surveyor recorded the location of all rare, listed, or special status plant species when encountered using a Trimble GeoXH global positioning system (GPS) unit with sub-meter accuracy and/or Samsung Tab4 tablet PCs running the ArcGIS Collector App by the Environmental Systems Research Institute.

During the rare plant surveys, all plant species observed within the survey area were noted, and plants that could not be identified in the field were identified later using taxonomic keys. Three surveys were conducted to offset potential limitations caused by the different blooming periods of different ephemeral annual species. The timing of the rare plant surveys allowed for most potentially-occurring rare plant species to be observable.

Plants are considered special status (sensitive) plant species if they are federally or California state listed as endangered or threatened or have CNPS Rank 1B (considered endangered throughout their range), Rank 2 (considered endangered in California but more common elsewhere), or Rank 4 (plants of limited distribution; CNPS 2015).

Date	Surveyors	Survey Type	Survey Time	Survey Conditions <sup>1</sup>
6/26/2013	Stacy Nigro <sup>1</sup>	General biological survey, vegetation mapping	NA	NA
4/13/2015	J.R. Sundberg	Rare plant survey #1	14:00–16:30	68–70° F, 60% cc wind 2–5 mph
5/4/2015	Brenna Ogg Kayo Valenti	CAGN survey #1 Wildlife/RCSPP survey	07:15–09:00	62–65° F, 90–95% cc wind 0–3 mph
5/12/2015	Brenna Ogg	CAGN survey #2 Wildlife/RCSPP survey	08:15–10:00	66–69° F, 50% cc wind 0–7 mph
5/20/2015	Brenna Ogg	CAGN survey #3 Wildlife/RCSPP survey	09:25–11:25	63–65° F, 90% cc wind 2–8 mph
5/21/2015	J.R. Sundberg	Rare plant survey #2	12:00–15:00	65–67° F, 10% cc wind 2–8 mph
6/9/2015	J.R. Sundberg	Rare plant survey #3	08:30–12:00	73–79° F, 50% cc wind 0–5 mph
11/5/2015	Brian Parker Andy Smisek	Updated vegetation mapping	12:45–13:50	70–71° F, 0% cc wind 2–6 mph
4/25/2016	Brian Parker	Updated botanical survey	15:30–16:30	N/A
6/6/2016	Wendy Loeffler	CAGN non-protocol survey	10:00–14:00	65–68° F, 15–20% cc wind 1–7 mph
7/19/2016	Brian Parker	Nesting bird survey for geotechnical survey	07:30–13:30	N/A

NOTE: CAGN= coastal California gnatcatcher; RCSPP = southern California rufous-crowned sparrow; °F = degrees Fahrenheit; cc = cloud cover; mph = mile per hour; % = percent  
<sup>1</sup> As referenced in the Draft Biological Constraints Report prepared by Helix (2013).

### 3.3 Coastal California Gnatcatcher Surveys

Protocol surveys for the federally threatened coastal California gnatcatcher were conducted during spring of 2015. RECON biologist Brenna Ogg conducted three site visits to survey all areas of habitat considered potentially suitable for coastal California gnatcatcher within

300 feet of the project site boundary according to USFWS survey protocol for this species (USFWS 1997).

The surveys were conducted on foot, and taped coastal California gnatcatcher vocalizations were used periodically to attract any potentially occurring coastal California gnatcatchers. The tape was played infrequently due to the prevalence of northern mockingbird (*Mimus polyglottos polyglottos*), western scrub-jay (*Aphelocoma californica*), and American crow (*Corvus brachyrhynchos hesperis*), which are potential coastal California gnatcatcher nest predators. A total of 5.55 hours of field effort was devoted to the survey.

During the protocol survey, all animal species detected were recorded. The location of any observed sensitive wildlife species were recorded using a handheld GPS device. Ms. Ogg is authorized to conduct coastal California gnatcatcher surveys under USFWS 10(a)(1)(A) permit TE-797665. RECON biologist Kayo Valenti assisted with one survey under supervision.

A single non-protocol survey for coastal California gnatcatchers was conducted on June 6, 2016 in support of the geotechnical survey. The survey was conducted on foot by RECON biologist Wendy Loeffler and included all suitable habitat within 500 feet of the project footprint. Ms. Loeffler walked slowly through the habitat pausing frequently to listen for gnatcatcher and other bird calls. As directed by City staff, the survey was conducted in a single 4-hour site visit.

### **3.4 Wildlife Surveys**

Following each protocol coastal California gnatcatcher survey visit, RECON biologists conducted searches to focus on detection of any additional sensitive wildlife species within the survey area. Specific attention was paid to areas with potential to support southern California rufous-crowned sparrow, a species known to occupy habitat similar to that of the coastal California gnatcatcher. This survey was conducted on foot, independently of the protocol survey, and all animal species detected were recorded, and sensitive species were mapped using a handheld GPS device.

### **3.5 Jurisdictional Wetlands and Waters**

A formal jurisdictional delineation of wetlands and waters within the survey area was not conducted; however, all areas of potential wetland vegetation or other jurisdictional features were investigated during surveys conducted as part of the Biological Constraints Report prepared by Helix (2013), and subsequent surveys conducted by RECON. All depressions, erosional features, potential drainage channels, and areas of potential wetland vegetation were investigated for the presence of potential wetlands and/or non-wetland Waters of the U.S., Waters of the State, and City of San Diego Wetlands.

A moderately-sized vernal pool complex occurs approximately 1,000 feet east of the project site, near the top of a gradual slope (see Figure 5). While no vernal pools were detected within the survey area, a small depression occurs within an unvegetated strip of disturbed

land in the western portion of the survey area, at the interface between an area of ornamental plants and the non-native grassland. This area is in a portion of the site that was graded in the year 2000 during construction of the Nobel Drive extension. The small depression is approximately 3 feet in diameter and less than 1 inch in depth.

This depression was noted to have somewhat moist and cracked soil during a survey on November 5, 2015. The survey occurred following three days of rain in the area, during which a total of 0.84 inch of rain fell on a nearby weather station (personal weather station [PWS] KCASANDI82; Weather Underground 2016). Previous rain events during the season were recorded at this PWS on September 15 and 16 (0.89 inch total), October 3, 4, and 5 (0.61 inch total), and October 28, and 29 (0.02 inch total) (Weather Underground 2016). Given the average to above-average rainfall in the months leading up to the November 5 survey, it is likely that there had been sufficient time for vernal pools to pond. Similarly, the depression was not noted to be ponded during three rare plant surveys conducted in 2015, two of which occurred within two weeks following moderate rainfall events in the area.

Similarly, no vernal pool indicator plants were observed within the depression during RECON site visits conducted during 2015 or 2016. Only one upland plant, Russian thistle (*Salsola tragus*), was found during a site visit on July 19, 2016. Rainfall in 2015 and 2016 were about normal (based on 1981 to 2010 average; National Weather Service 2016), and vernal pool species would have been expected to sprout if present. Thus, based on the small size, shallow depth, and lack of vernal pool indicator species, the depression does not meet the U.S. Army Corps of Engineers (USACE) or City definition of a vernal pool.

These same factors suggest that the depression is unlikely to hold water for a sufficient amount of time to support fairy shrimp.

## **4.0 Existing Conditions**

### **4.1 Topography and Soils**

The survey area is largely undeveloped and lies primarily within the City's MHPA in the Rose Canyon Open Space (see Figure 5). The survey area is surrounded on three sides by existing development (Nobel Drive, multi-family housing, and an athletic field to the north, and Shoreline Drive and multi-family housing to the west and south. The Rose Canyon Open Space extends the east from the site (see Figure 3).

Topography within the survey area generally slopes from a high of 312 feet above mean sea level (AMSL) in the northwest to approximately 292 feet AMSL in the southeast (USGS 1996). Soils within the survey area are identified in the USGS Soil Survey maps (USDA 1973) as Huerhuero loam, 15 to 30 percent slopes eroded (Figure 6). This characterization is consistent with the findings of the July 19, 2016 geotechnical survey conducted for the project by Ninyo & Moore (Ninyo & Moore 2016). The Huerhuero series consists of moderately well-drained loams that have a clay subsoil (USDA 1973) and is one of the soil types capable of supporting vernal pools.

## 4.2 Botany

A total of eight vegetation communities occur within the survey area: southern willow scrub, valley needlegrass grassland, Diegan coastal sage scrub (including disturbed), southern mixed chaparral, non-native grassland, disturbed land, ornamental vegetation, and urban/developed land. The acreage of each vegetation community and land cover type within the survey area are presented in Table 2 and shown in Figure 7. The tier for each vegetation community and land cover type is identified per the City’s Biology Guidelines. A list of plant species observed is presented in Attachment 1.

Community or Type (Holland Code)	City of San Diego Tier	Acres*		
		Inside MHPA	Outside MHPA	Total
Southern willow scrub	Riparian	0.01	<0.01	0.01
Valley needlegrass grassland (42110)	I	0.24	0.00	0.24
Diegan coastal sage scrub (32500)	II	0.42	0.11	0.53
Disturbed Diegan coastal sage scrub (32500)	II	0.02	0.16	0.18
Southern mixed chaparral (37120)	IIIA	0.22	0.00	0.22
Non-native grassland (42200)	IIIB	0.57	0.09	0.66
Disturbed land (11300)	IV	0.19	0.03	0.22
Ornamental plantings (11000)	IV	0.56	0.22	0.78
Urban/developed land (12000)	N/A	0.02	1.82	1.84
<b>Total</b>		<b>2.24</b>	<b>2.43</b>	<b>4.68</b>

\* Survey area includes the project site (equivalent to the impact footprint shown in Table 3 below), plus all vegetation within 100-feet.

### 4.2.1 Southern Willow Scrub

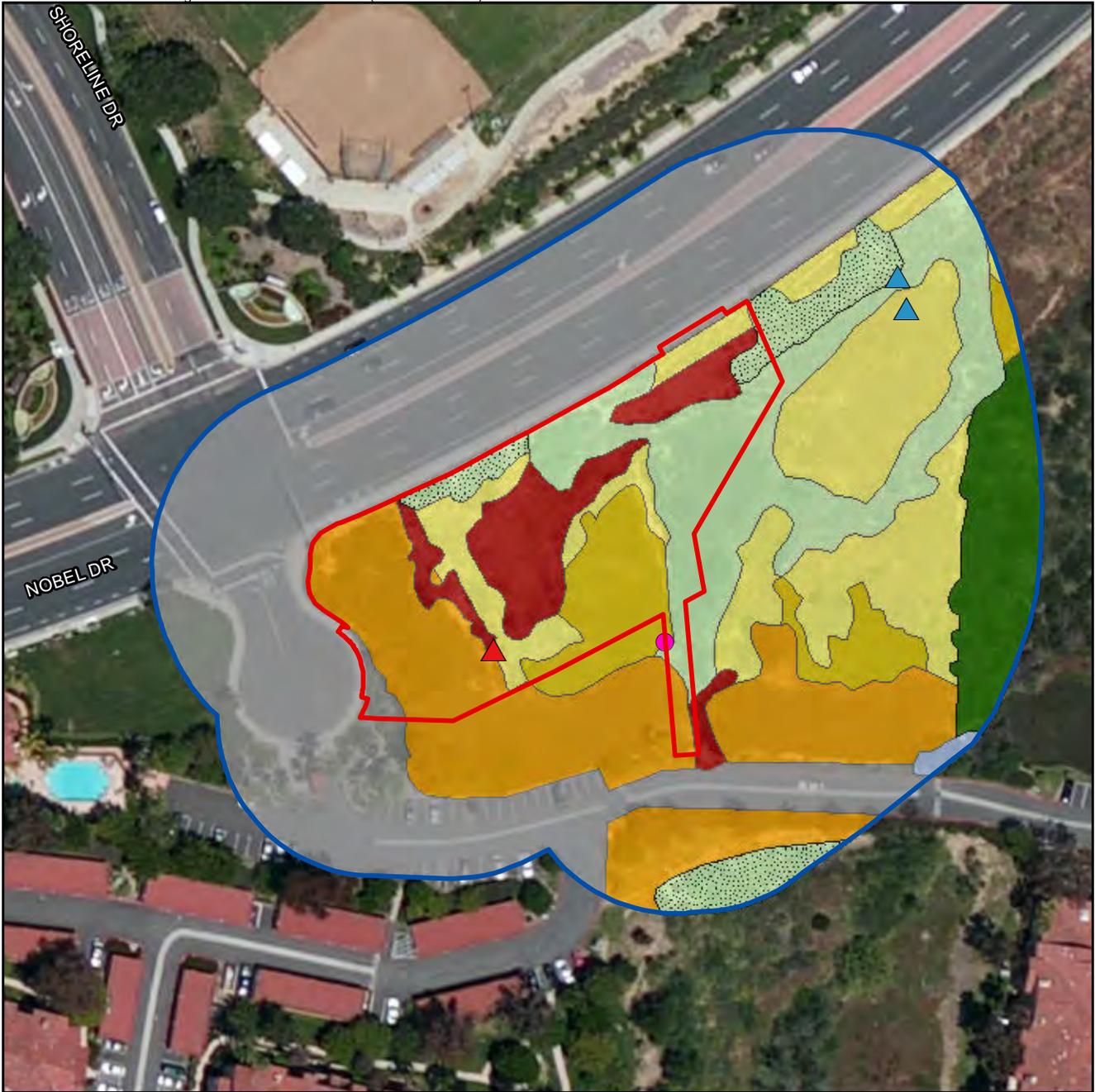
Southern willow scrub is considered a sensitive wetland habitat by the City of San Diego Biology Guidelines (City of San Diego 2012). Southern willow scrub is a dense riparian community dominated by broad-leafed, winter-deciduous willow trees (*Salix* spp.).

This plant community is typically found along drainages, where the density of the willows typically prevents development of many smaller understory plants. The representative species typically grow in loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. This community requires repeated flooding to prevent succession to a community dominated by sycamores and cottonwoods (Holland 1986).

A small area of southern willow scrub occurs at the extreme southeastern corner of the survey area, along the boundary of the undeveloped land and the adjacent residential complex to the south. The overall patch consists of several arroyo willow (*Salix lasiolepis*) shrubs, although only a portion of one shrub occurs within the survey area. In total 0.01 acre of southern willow scrub occurs within the survey area, including 0.01 acre within the MHPA and less than 0.01 acre outside the MHPA.



-  Project Site
-  Huerhuero Loam, 15 to 30% Slopes, Eroded
-  Riverwash



- Project Site
- Survey Area

**Sensitive Species**

- ▲ San Diego County *Viguiera (Bahioopsis laciniata)*
- ▲ Ashy Spike-moss (*Selaginella cinerascens*)
- Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)

**Vegetation Communities**

- Urban/Developed Land
- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub - Disturbed
- Disturbed Land
- Valley Needlegrass Grassland
- Non-native Grassland
- Ornamental Plantings
- Southern Mixed Chaparral
- Southern Willow Scrub



**FIGURE 7**  
Existing Biological Resources

## 4.2.2 Valley Needlegrass Grassland

Valley needlegrass grassland is a native grassland and is considered a Tier I (rare uplands) by the City of San Diego Biology Guidelines (City of San Diego 2012). This plant community is composed of native perennial bunch grasses such as purple needle grass (*Stipa pulchra*). A mix of native and non-native annual plants often occurs between the perennial bunch grasses, and may exceed the bunch grasses in cover. Despite the large proportion of non-native grasses, valley needlegrass grasslands are distinguished as native grasslands if the percent cover by native grass species is 10 percent or greater. This vegetation community usually occurs on fine-textured (often clay) soils, moist or even waterlogged during winter, but very dry in summer. Much of the land historically covered by this and other native grassland communities have been converted to non-native annual grasslands due to the invasion of exotic annual grasses (Oberbauer et al. 2008).

A total of 0.24 acre of valley needlegrass grassland occurs within the survey area, entirely within the MHPA. It occurs primarily in the central portion of the survey area and an irregularly-shaped patch in the southeast portion of the survey area. This community is dominated by combination of purple needle grass and nodding needle grass (*Stipa cernua*). Other species that occur within valley needlegrass grassland include scattered golden tarplant (*Deinandra fasciculata*), California sagebrush (*Artemisia californica*), long-beak filaree (*Erodium botrys*), and various annual non-native grasses.

## 4.2.3 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is considered a Tier II (uncommon upland) vegetation community by the City Biology Guidelines (City of San Diego 2012). It is the southern form of coastal sage scrub, a vegetation community that consists of low-growing, aromatic, drought-deciduous soft-woody shrubs that have an average height of approximately 3 to 4 feet. This community is typically found on sites with low moisture-availability, steep, xeric slopes or clay rich soils that are slow to release stored water. Diegan coastal sage scrub is found in coastal areas from Los Angeles County south into Baja California, Mexico (Oberbauer et al. 2008).

A total of 0.71 acre of Diegan coastal sage scrub occurs within the survey area, including 0.44 acre within the MHPA and 0.27 acre outside the MHPA. This community occurs primarily along the northern edge of the project site south of Nobel Drive, and in the eastern portion of the survey area. It is dominated by California sagebrush, laurel sumac (*Malosma laurina*), California buckwheat (*Eriogonum fasciculatum*), and broom baccharis (*Baccharis sarothroides*). Other common species within this habitat include deerweed (*Acmispon glaber*), golden tarplant, and non-native grasses. The portion of Diegan coastal sage scrub along the southeastern edge of the survey area, and extending off-site to the southeast is heavily dominated by lemonade berry (*Rhus integrifolia*).

The strip of Diegan coastal sage scrub immediately south of Nobel Drive is mapped as disturbed. This area of disturbed Diegan coastal sage scrub is more open and has a higher proportion of non-native grasses and annual forbs than areas of intact habitat. Several

native big saltbush (*Atriplex lentiformis*) shrubs are also present in this area. This disturbance is likely a function of proximity to a fairly busy road with a moderate amount of foot traffic.

#### **4.2.4 Southern Mixed Chaparral**

Southern mixed chaparral is considered a Tier III A (Common Upland) habitat by the City Biology Guidelines (City of San Diego 2012). It is typically dominated by tall (5–10 feet tall) broad-leaved sclerophyllous shrubs or small trees, and characteristically occupies protected north-facing and canyon slopes or ravines where more mesic conditions are present. The vegetation is usually dense, with little or no understory cover but may include patches of bare soil. This community typically is found in more mesic areas, such as along north-facing slopes. Many species in this community are adapted to repeated fires by their ability to stump sprout. Southern mixed chaparral is typically found in coastal foothills of San Diego County and Northern Baja California, usually at elevations below 3,000 feet (Holland 1986).

A total of 0.22 acre of southern mixed chaparral occurs within the survey area, entirely within the MHPA. It occurs in the southeastern portion of the survey area, in low draw between two hills. This area is dominated by lemonade berry, laurel sumac, and toyon (*Heteromeles arbutifolia*), with several large pampas grass (*Cortaderia jubata*).

#### **4.2.5 Non-Native Grassland**

Non-native grassland is considered a Tier IIIB (common upland) vegetation community by the City Biology Guidelines (City of San Diego 2012). It is characterized by a sparse to dense cover of annual grasses reaching up to 3 feet in height. Typically, non-native grasses occupy at least 50 percent of the entire herbaceous layer, although other plant species (native and non-native) may be intermixed (City of San Diego 2012). These annuals germinate with the onset of the rainy season and set seeds in the late winter or spring. With a few exceptions, the plants are dead through the summer–fall dry season, persisting as seeds. Non-native grasslands are usually found in areas that range from being moist or waterlogged in the winter to being very dry during the summer and fall (Oberbauer et al. 2008).

A total of 0.66 acre of non-native grassland occurs in the survey area, including 0.57 acre within the MHPA and 0.09 acre outside the MHPA. This vegetation community occurs in patches throughout the survey area and is dominated by invasive annual grasses such as wild oat (*Avena* sp.), purple falsebrome (*Brachypodium distachyon*), ripgut grass (*Bromus diandrus*), and red brome (*Bromus madritensis* ssp. *rubens*), as well as golden tarplant, long-beak filaree, and stinkwort (*Dittrichia graveolens*).

#### **4.2.6 Disturbed Land**

Disturbed land is considered a Tier IV (other uplands) by the City Biology Guidelines (2012). Disturbed land generally consists of areas altered by human activity,

such as areas where soil or other materials have been dumped, areas where foot or vehicular traffic have altered natural species composition, or areas dominated by non-native annual forbs. Such areas have little or no value to native wildlife. These areas typically occur in highly populated areas, and may receive water from precipitation or runoff (Oberbauer et al. 2008).

A total of 0.22 acre of disturbed land occurs within the survey area, including 0.19 acre within the MHPA and 0.03 acre outside the MHPA. Typical non-native species that are prevalent in the disturbed land within the survey area include black mustard (*Brassica nigra*), Russian thistle, tocalote (*Centaurea melitensis*), red brome, ripgut grass, and radish (*Raphanus sativus*).

## 4.2.7 Ornamental Plantings

Ornamental plantings are considered a Tier IV (other uplands) land cover by the City Biology Guidelines (2012). This land cover type is characterized by ornamental species that were historically installed for landscaping purposes and are not maintained or irrigated.

A total of 0.77 acre of ornamental plantings occur within the survey area, including 0.56 acre within the MHPA and 0.22 acre outside the MHPA. Ornamental plantings occur along Shoreline Drive and where the site abuts the adjacent residential complex to the south. The dominant plants in these areas are acacia shrubs (*Acacia cyclops* and *A. redolens*), with areas of Brisbane box (*Lophostemon confertus*), iceplant (*Mesembryanthemum nodiflorum*), and carrotwood (*Cupaniopsis anacardioides*).

## 4.2.8 Urban/developed Land

Urban/developed land includes areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Urban/developed land is characterized by permanent or semi-permanent structures and pavement or hardscape where no natural land is evident. This land cover type is not considered a sensitive vegetation community by the City Biology Guidelines (2012).

A total of 1.84 acres of urban/developed land occurs within the survey area, including 0.02 acre within the MHPA and 1.82 acre outside the MHPA. Areas mapped as urban/developed land include roads (Nobel Drive and Shoreline Drive) and the Lucera apartment complex to the south.

## 4.3 Zoology

The wildlife species observed on site are typical of the vegetation communities present and of urban/disturbed areas in San Diego County as noted below in each subsection. A list of the wildlife species detected on-site is in Attachment 2.

### 4.3.1 Amphibians

Most amphibians require moisture for at least a portion of their lifecycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid desiccation by burrowing beneath the soil or leaf litter during the day and during the dry season. No amphibians were detected during field surveys.

### 4.3.2 Reptiles

The reptile species observed in the survey area are typical of grasslands and scrub habitats in San Diego's urban open spaces. Western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), Belding's orange-throated whiptail, and a rattlesnake (*Crotalus* sp.) were observed during the survey.

### 4.3.3 Birds

The diversity of bird species varies with respect to the character, quality, and diversity of vegetation communities present on a site. High-quality vegetation communities typically support a moderate to high variety of bird species. The grassland vegetation communities provide foraging opportunities and the scrub and ornamental plantings provide foraging and shelter opportunities for a wide variety of bird species. Disturbed and urban/developed lands are used by bird species adapted to urban settings.

The most commonly observed species within the survey area include mourning dove (*Zenaida macroura marginella*), house finch (*Haemorhous [=Carpodacus] mexicanus frontalis*), Cassin's kingbird (*Tyrannus vociferans vociferans*), song sparrow (*Melospiza melodia*), and lesser goldfinch (*Spinus [=Carduelis] psaltria hesperophilus*).

### 4.3.4 Mammals

Most mammal species are nocturnal, so their presence during daytime surveys is detected by observing their sign, such as tracks, scat, and burrows. A total of six mammal species were detected within the survey area: desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), coyote (*Canis latrans*), and striped skunk (*Mephitis mephitis*). These species are all common mammals found in urban open space areas. Additionally, one woodrat (*Neotoma* sp.) midden was observed during coastal California gnatcatcher surveys in a dense patch of lemonade berry outside the main survey area (greater than 100 feet from the project site boundary). No woodrat individuals were observed at the midden, so it was not possible to identify it to species level.

## 5.0 Sensitive Biological Resources

### 5.1 Regulatory Setting

The **Migratory Bird Treaty Act** (16 United States Code 703 et seq.), or MBTA, is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive, and is listed at 50 Code of Federal Regulations (CFR) 10.13. The regulatory definition of “migratory bird” is broad, and includes any mutation or hybrid of a listed species and any part, egg, or nest of such birds (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the Endangered Species Act. The MBTA, which is enforced by USFWS, makes it unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird, or attempt such actions, except as permitted by regulation. The take, possession, import, export, transport, sale, purchase, barter, or offering of these activities is prohibited, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

Section 3503 from the **California Fish and Game Code** applies to projects in the State. This section states that it is “unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto,” and Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird” unless authorized (CDFW 1991).

One of the primary objectives of the City’s **MSCP Subarea Plan** is to identify and maintain a preserve system, which allows for animals and plants to exist at both the local and regional levels. The MSCP has identified large blocks of native habitat having the ability to support a diversity of plant and animal life known as “core biological resource areas.” “Linkages” between these core areas provide for wildlife movement. These lands have been determined to provide the necessary habitat quality, quantity, and connectivity to sustain the unique biodiversity of the San Diego region. Input from responsible agencies and other interested participants resulted in creation of the City’s MHPA. The MHPA is the area within which the permanent MSCP preserve would be assembled and managed for its biological resources.

The **City of San Diego Biology Guidelines** (2012) were formulated to aid in the implementation and interpretation of the Environmentally Sensitive Lands Regulations (ESL), San Diego Land Development Code (LDC), Chapter 14, Division 1, Section 143.0101. Section III of the Guidelines (Biological Impact Analysis and Mitigation Procedures) also serve as standards for the determination of impacts and mitigation under California Environmental Quality Act (CEQA). The ESL defines sensitive biological resources as those lands included within the MHPA as identified in the City of San Diego’s MSCP Subarea Plan (City of San Diego 1997), and other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA or IIIB; habitat for rare, endangered or threatened species; or narrow endemic species.

## 5.2 Sensitivity Criteria

For purposes of this report, species will be considered sensitive if they are: (1) listed by state or federal agencies as threatened or endangered or are proposed for listing; (2) designated by the City of San Diego as a narrow endemic species (City of San Diego 2012); (3) covered species under the City of San Diego MSCP; or (4) on California Rare Plant Rank 1B (considered endangered throughout its range) or California Rare Plant Rank 2 (considered endangered in California but more common elsewhere) of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (2015). Noteworthy plant species are considered to be those that are on California Rare Plant Rank 3 (more information about the plant's distribution and rarity needed) and California Rare Plant Rank 4 (plants of limited distribution) of the CNPS *Inventory*. Sensitive vegetation communities are those identified by Holland (1986) or identified by the City of San Diego (2012).

## 5.3 Sensitive Vegetation Communities

Pursuant to the City's Biology Guidelines, three sensitive vegetation communities occur within the survey area: valley needlegrass grassland (Tier I habitat), Diegan coastal sage scrub (Tier II habitat), and non-native grassland (Tier III-B habitat). All three are considered upland habitats. No wetland habitats occur within the survey area.

## 5.4 Sensitive Plants

Attachment 3 assesses the potential for sensitive plant species to occur within the survey area based on their known ranges and habitat requirements. No MSCP-covered plant species, narrow endemic species, or federal or state listed species were detected within the survey area; however, two CNPS-listed plants were detected and are discussed below. Additionally, critical habitat for the federally threatened spreading navarretia (*Navarretia fossalis*) has been designated approximately 475 feet northeast of the project site (USFWS 2010). This species is also discussed in more detail below.

**Ashy spike-moss** is identified by the CNPS as a California Rare Plant Rank (CRPR) 4.1 species (CNPS 2015). This plant is a perennial, rhizomatous herb composed of a loose tangle of prostrate runners pale green in color and aging tan to white. This species is distributed mostly in San Diego County and northern Baja California below 1,800 feet in elevation (Baldwin et al. 2012). It is found at many sites in San Diego County, primarily south of Highway 78, on the periphery of the city of San Diego, and in the Marine Corps Air Station Miramar, where it can be the dominant ground cover (Reiser 2001). It occurs in sunny spots or under shrubs within chaparral and coastal sage scrub (Baldwin et al. 2012; CNPS 2015), and on many soil types (Reiser 2001). This species is a good indicator of site degradation, as it rarely inhabits disturbed soils.

An approximately 6-square-foot patch of ashy spike-moss was observed within the valley needlegrass grassland and coastal sage scrub in the southern portion of the project site.

**San Diego County viguiera** is a CRPR Rank 4.2 species (CNPS 2015). This shrub in the sunflower family (*Asteraceae*) has shiny, resinous leaves and showy yellow flowers that bloom from February to June (Hickman 1993, Munz 1974). Its range extends from Sonora and Baja California, Mexico northward into San Diego and Orange County (CNPS 2015), although the population in Orange County may not be native (Reiser 2001). In San Diego County it is rare north of Highway 78 and becoming increasingly common to the south, until it is the dominant coastal sage shrub in non-coastal southern San Diego County (Reiser 2001). San Diego County viguiera occurs on dry, shrubby slopes in Diegan coastal sage scrub and chaparral habitats between 200 and 2500 feet.

Nine individuals were observed in Diegan coastal sage scrub and non-native grassland near the eastern edge of the survey area; however, none were observed within the project site. Several other San Diego viguiera were present just outside the survey area to the east.

**Spreading navarretia** is listed as threatened by the USFWS (1998), is a CRPR 1B.1 species (CNPS 2014) and is a narrow endemic species and a covered species under the MSCP. This low-growing annual herb in the phlox family (*Polemonicaeae*) grows about 5 inches tall and flowers from April to June. Its range includes northwestern Los Angeles County, western Riverside County, coastal San Diego County, and northwestern Baja California (USFWS 1998). This species occurs in vernal pools and ditches below 4300 feet (Hickman 1993). Numbers of spreading navarretia increase during wet years, and this species is seldom noted in shallow vernal pools. Two other species of navarretia occur in similar habitats: *N. intertexta* has ovate, rather than linear, corolla lobes and *N. prostrata* is prostrate, with its bluish flowers almost buried in its basal leaves.

No vernal pools occur within the survey area; although there is a vernal pool complex approximately 1,000 feet to the east of the site (City of San Diego 2008), and spreading navarretia critical habitat has been designated 475 feet to the east of the project site (USFWS 2010). Rare plant surveys were conducted during the growing season for this species, including two surveys conducted within two weeks of moderate rain events in the area. No spreading navarretia was detected in the on-site depression. Based on the lack of suitable vernal pool habitat and negative rare plant surveys, this species has no potential to occur within the survey area.

## 5.5 Sensitive Wildlife Species

Two sensitive wildlife species were detected within or adjacent to the survey area: Belding's orange-throated whiptail and western bluebird. These species are discussed in detail below.

### 5.5.1 Sensitive Wildlife Species Observed

**Belding's orange-throated whiptail** is a California Department of Fish and Wildlife (CDFW) species of special concern and an MSCP-covered species. This species ranges from the coast to the Peninsular mountain ranges from Orange and southwestern San Bernardino counties to the tip of Baja California, Mexico (Stebbins 2003). It occurs in a variety of habitats and is most common in sandy areas of low, open sage scrub or chaparral,

particularly where there is California buckwheat, sage (*Salvia* spp.), or chamise (Lemm 2006). It is active during spring and summer, but is largely dormant during the fall and winter, when temperatures drop (Jennings and Hayes 1994). Breeding occurs from May through July. Belding's orange-throated whiptails feed primarily on insects such as termites (*Reticulitermes* sp.). The decline of this species is attributed to habitat loss and fragmentation (McGurty 1980).

This species was detected within the survey area just south of the project site in the large patch of valley needlegrass grassland. Additionally, several individuals were observed in Diegan coastal sage scrub during protocol coastal California gnatcatcher surveys, outside the main survey area (greater than 100 feet from the project site boundary). Based on the presence of numerous individuals within the project site and in the vicinity, this species is considered present throughout the valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland in the project site.

**Western bluebird** is an MSCP-covered species (City of San Diego 1997). It occurs throughout the year in foothills and mountains of San Diego County and is also a resident of the inland parts of the coastal lowland (Unitt 2004). The western bluebird breeds in open woodlands of oaks, riparian deciduous trees, or conifers with herbaceous understory and, in winter, uses more open habitats (Unitt 2004). This bird generally requires trees and shrubs for cover and will nest and roost in cavities of trees or snags (Unitt 2004). Competition for nesting cavities from non-native European starlings (*Sturnus vulgaris*) and house sparrows (*Passer domesticus*) threaten this species (Zeiner et al. 1988-1990). A study conducted in 2003 (Truan) shows that brown-headed cowbirds (*Molothrus ater*) also brood parasitize cavity-nesters, including western bluebirds. This brood parasitism was once considered to be very rare, but as the brown-headed cowbird's distribution continues to increase, more western bluebird nests will be affected. Other threats to this species include loss of nesting habitat due to logging, fire suppression, and urbanization (Guinan et al. 2008).

One western bluebird was observed among the landscaping trees associated with the athletic fields north of Nobel Drive (greater than 100 feet from the project site boundary) during protocol coastal California gnatcatcher surveys (RECON 2015). This species has no potential to nest in the project site, but would be most likely to nest in the larger trees along Rose Canyon, which is approximately 750 feet south of the site, south of the Lucera apartment complex.

## 5.5.2 Sensitive Wildlife Species with Potential to Occur

A total of 27 sensitive wildlife species were assessed for potential to occur within the project site (Attachment 4). This assessment is based on the ranges and habitat requirements of these species. Of these, five species were determined to have moderate or high potential to occur: red diamond rattlesnake, coast horned lizard, Cooper's hawk (*Accipiter cooperii*), San Diego black-tailed jackrabbit, and San Diego desert woodrat (*Neotoma lepida intermedia*). Protocol surveys for coastal California gnatcatcher and directed searches for southern California rufous-crowned sparrow were also conducted, so these species are included in the discussion below.

**Red diamond rattlesnake** is a CDFW species of special concern. This species occurs from sea level to about 4,000 to 5,000 feet on both sides of the Peninsular Ranges from southern San Bernardino County south through western Riverside and San Diego counties to Baja California, Mexico (Jennings and Hayes 1994). It inhabits coastal sage scrub, chaparral, and pinyon–juniper woodland particularly where there are abundant rock outcrops (Jennings and Hayes 1994; Lemm 2006). This species is active year round with peak activity occurring in April and May, and breeding from February through September (Jennings and Hayes 1994). Its diet consists principally of small mammals, lizards, birds, and other snakes. Population declines of the red diamond rattlesnake are generally attributable to a reduction of habitat in the snake’s restricted range due to urbanization and agriculture.

One unidentified rattlesnake was observed beneath a lemonade berry shrub within Diegan coastal sage scrub outside the survey area (greater than 100 feet from the project site boundary) during protocol coastal California gnatcatcher surveys. Although this snake was not positively identified to be red diamond rattlesnake and was located outside the project site, based on the presence of suitable coastal sage scrub, there is high potential for this species to occur in Diegan coastal sage scrub, valley needlegrass grassland, and non-native grassland within the project site.

**Coast horned lizard** is a CDFW species of special concern and an MSCP-covered species. This lizard ranges from coastal southern California to the desert foothills and into Baja California. In San Diego County, it has a wide range but spotty distribution. It is often associated with coastal sage scrub, especially in areas of level to gently sloping ground and with well-drained loose or sandy soil, but can also be found in annual grasslands, chaparral, oak woodland, riparian woodland, and coniferous forest between 30 and 7,030 feet (Mills 1991; Jennings and Hayes 1994). This animal usually avoids dense vegetation, preferring 20 to 40 percent bare ground in its habitat. Where it can be found, the coast horned lizard can be locally abundant, with densities near 20 adults per acre. Adults are active from late March to late August; young are active from August to November or December. They are largely dependent upon native harvester ants (*Pogonomyrmex* sp.) for food. Populations along the coast and inland have been severely reduced by loss of habitat.

The coast horned lizard was not detected within the survey area; however, there is suitable coastal sage scrub habitat both within the project site in and in the vicinity. The coastal sage scrub within the survey area is of low to moderate quality due to historical disturbance and frequent human access; however, it has connectivity with higher quality coastal sage scrub off site to the east. Therefore, this species is considered to have moderate potential to occur in the project site.

**Coastal California gnatcatcher** is federally listed as threatened, is a CDFW species of special concern, and is an MSCP covered species. The coastal California gnatcatcher is a non-migratory, resident species found on the coastal slopes of southern California, ranging from Ventura County southward through Los Angeles, Orange, Riverside, and San Diego counties into Baja California, Mexico (Atwood and Bontrager 2001). This species typically occurs in or near sage scrub habitat, although chaparral, grassland, and riparian woodland

habitats are used where they occur adjacent to sage scrub. Breeding occurs from February through August, and nests are constructed most often in California sagebrush. The coastal California gnatcatcher diet consists mainly of sessile small arthropods, such as leafhoppers, spiders, beetles, and true bugs (Atwood and Bontrager 2001). The primary cause of decline in the coastal California gnatcatcher population is due to habitat loss and degradation.

The Diegan coastal sage scrub within the survey area is relatively low quality for coastal California gnatcatchers because it is patchy and interspersed with grasslands and disturbed land. However, a larger area of more diverse, higher quality habitat occurs off site to the east. Based on the presence of marginally suitable habitat on-site and higher quality habitat adjacent within the MHPA, USFWS protocol coastal California gnatcatcher surveys (USFWS 1997) were conducted by RECON (2015). Although no coastal California gnatcatchers were detected during protocol surveys or during the non-protocol survey conducted prior to the geotechnical survey, there is still a moderate potential for this species to occur adjacent to the project site.

**Southern California rufous-crowned sparrow** is a CDFW watch list species, an MSCP-covered species (City of San Diego 1997). This subspecies of rufous-crowned sparrow is a San Diego County resident and ranges throughout southern California from Los Angeles County to Baja California, Mexico (Collins 1999). Southern California rufous-crowned sparrows are found in sage scrub, broken or burned chaparral habitats, and grasslands with scattered shrubs. The species exhibits a strong preference for moderate to steep, south-facing, dry, rocky slopes with a 50 percent cover of low shrubs (Unitt 2004; Collins 1999). Breeding occurs from March through June, and pair bonds are formed that may last year-round (Collins 1999). Loss of habitat due to urbanization and habitat fragmentation has decreased the amount of suitable habitat for southern California rufous-crowned sparrows (Unitt 2004).

Based on the presence of potentially suitable habitat in the vicinity, time was allocated at following each protocol coastal California gnatcatcher survey to look for southern California rufous-crowned sparrow and other sensitive wildlife species. Although this species was not detected during these surveys, suitable habitat is present. Therefore, there is moderate potential for this species to occur within the project site.

**Cooper's hawk** is a CDFW watch list and is a MSCP-covered species. The Cooper's hawk ranges year-round throughout most of the United States; its wintering range extends south to Central America and its breeding range extends north to southern Canada (Rosenfeld and Bielefeldt 1993). Breeding birds are widespread over San Diego County's coastal slope and most abundant in lowland and foothill canyons and in urban areas. It is common breeder in both oak and willow riparian woodlands and urban environments, with eucalyptus trees used nearly as often as oaks (Unitt 2004). Additionally, this species has been known to nest within planted trees including pine, redwood, and avocado (Unitt 2004). Breeding occurs from March to June and nests are typically located high in the tree, but under the canopy. This hawk forages primarily on medium-sized birds but is also known to eat small mammals such as chipmunks and other rodents (Rosenfeld and Bielefeldt 1993). Although urbanization and loss of habitat have contributed to the decline of this species,

the Cooper's hawk adaptation to city living over the last 20 years have generously increased their numbers (Unitt 2004).

Cooper's hawk was not detected in the project vicinity during surveys. It has no potential to nest within the survey area; however, it has high potential to forage in the survey area, including in the project site. There are a number of moderate-sized landscaping trees associated with the athletic fields approximately 200 feet to the north of the survey area. These trees would be potentially suitable for nesting Cooper's hawks; however, the high level of vehicular traffic along Nobel and Shoreline Drives, as well as recreational activity at the athletic fields makes these trees low quality for Cooper's hawks. Therefore, this species has low potential to nest in this area. The trees along Rose Creek, approximately 750 feet to the south of the project site, are of much higher quality due to reduced human intrusion and increased distance from vehicular activity, and have moderate to high potential to support nesting Cooper's hawks and other raptors.

**San Diego black-tailed jackrabbit** is a CDFW species of special concern. It ranges from near the Kern-Ventura county line southward and west of the Peninsular Range into Baja California (Hall 1981). This species can be found throughout southern California, with the exception of the high-altitude mountains. It occupies open or semi-open habitats, such as coastal sage scrub and open chaparral areas. Forested and thick chaparral regions are not suitable (Bond 1977). The San Diego black-tailed jackrabbit breeds throughout the year, with the greatest number of births occurring from April through May. The black-tailed jackrabbit is strictly herbivorous, preferring habitat with ample forage such as grasses and forbs. Declines in San Diego black-tailed jackrabbit populations are due to a decline in suitable habitat as a result of urban development.

Although San Diego black-tailed jackrabbit was not detected during surveys of the site, the coastal sage scrub and adjacent native and non-native grasslands provide suitable habitat for this species. Thus, there is moderate potential for this species to occur in the project site.

**San Diego desert woodrat** is a CDFW species of special concern. Its range extends through coastal areas from San Luis Obispo well into Baja California, inland to the San Bernardino Mountains and Julian (Hall 1981). The San Diego desert woodrat occurs west of the mountains in San Diego County within chaparral areas with a preference for rock outcrops (Bond 1977). The middens (nests) of this species can be occupied by multiple generations and have been documented as old as 200 to 400 years of age. The breeding season for the San Diego desert woodrat is from October to May. Their diet consists of a variety of plant species and many parts of the plant including buds, fruits, seeds, bark, leaves, and young shoots (Brylski 1983). Threats to this species include habitat degradation and loss of habitat.

One woodrat midden was observed within dense coastal sage scrub vegetation outside the survey area (greater than 100 feet from the project site boundary) during coastal California gnatcatcher surveys. No woodrat individuals were observed, so it was not possible to determine if it belonged to the sensitive San Diego desert woodrat or the more common dusky-footed woodrat (*Neotoma fuscipes*). Although the coastal sage scrub within the survey area is much less dense than that where the midden was found, it and the adjacent

native and non-native grasslands within the survey area and project site are potentially suitable for this species. Based on the presence of suitable habitat, mitigated by the lack of middens found in the survey area and uncertainty of the woodrat species that created the midden off site, this species is considered to have low potential to nest and moderate potential to forage in the project site.

## **5.6 Jurisdictional Waters/Wetlands**

As previously detailed in Section 3.0, the survey area was previously investigated for potential jurisdictional features, including wetlands and waters of the U.S. and waters of the state during the 2013 constraints survey. Additionally, RECON biologist JR Sundberg examined the survey area in 2015 for potential wetlands and waters during rare plant surveys of the site. Although a small area of southern willow scrub occurs in the extreme southeast of the site, no potential jurisdictional wetlands or waters were identified within 150 feet of the project boundary. A formal wetland delineation was not necessary.

## **5.7 Multi-Habitat Planning Area**

As mentioned above, the MHPA has been designated as the permanent MSCP preserve and is managed to conserve its biological resources. MHPA lands are considered by the City to be sensitive biological resources. As shown in Figure 4 and Tables 2 and 3, a portion of the survey area (2.04 acre), and most of the project site (0.79 acre), occurs within the MHPA. The site lies at the western edge of a large segment of the MHPA that extends east to I-805 and has connectivity with the Rose Canyon Open Space.

The MSCP identifies land use adjacency guidelines to minimize direct and indirect impacts and maintain the function of the MHPA (City of San Diego 1997). These adjacency guidelines address drainage, toxins, lighting, noise, barriers, invasive species, brush management requirements, and placement of grading footprints relative to the MHPA. Each of these issues will be discussed in detail in Section 6.2.2, below.

## **5.8 Wildlife Movement Corridors**

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important, because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive by resource and conservation agencies.

The survey area is bounded to the north, west, and south by existing roads or developments, but is located at the western edge of a relatively large swath of habitat within the MHPA and has connectivity with the Rose Canyon Open Space to the south.

Because the project site is situated at a terminal pocket of this open space area and contains a large proportion of disturbed land, ornamental, and urban/developed land, which are non-sensitive cover types, the site contributes little value to the open space as a whole and virtually no value for wildlife movement.

## **6.0 Impact Analysis**

Construction of the proposed project would cause impacts to biological resources. Direct and indirect impacts to vegetation/land cover types, MHPA, conserved lands, and sensitive biological resources are discussed below. The proposed project would impact a total of 0.94 acre within the overall 92-acre lot.

The geotechnical survey for the proposed project was conducted in July 2016 and required digging five test pits within the project footprint. The test pits were dug with a truck-mounted auger; therefore, it was necessary to clear vegetation in some areas to reduce fire risk from vehicular access to the test pit locations. A biologist was present to help the crew minimize removal of habitat and to monitor crew activities. Vegetation clearing was restricted to non-native grassland and disturbed land to the degree possible, but it was also necessary to clear several shrubs from within disturbed Diegan coastal sage scrub. As previously stated, all clearing and digging occurred within the project footprint, so the impacts are included in the overall impact acreage presented above, in Table 3, and in Figure 8.

### **6.1 Direct Impacts**

#### **6.1.1 Vegetation Communities/Land Cover Types**

The proposed project would result in permanent impacts to a total of 0.94 acre, including 0.79 acre inside the MHPA (0.02 within the Mitigation Parcel) and 0.15 acre outside the MHPA (Table 3 and Figure 8). BMZ 2, which is considered impact-neutral, extends beyond the grading footprint to the south and would occur on 0.30 acre, including 0.25 acre inside the MHPA (including 0.21 acre within the Mitigation Parcel) and 0.05 acre outside the MHPA (see Table 3 and Figure 8). The City Fire Department would be responsible for maintaining BMZ 2 on a regular basis through weed and invasive species control, and selective thinning and pruning of shrubs to reduce fuel load. The impact footprint is greater than the 0.92-acre development footprint identified in project plans because it includes small slivers of vegetation that currently lay between the grading footprint and existing developed areas. These slivers would be isolated and no longer considered viable.

Valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland are considered sensitive vegetation communities pursuant to the City's Biology Guidelines. The project would result in direct impacts to 0.50 acre of sensitive vegetation communities.

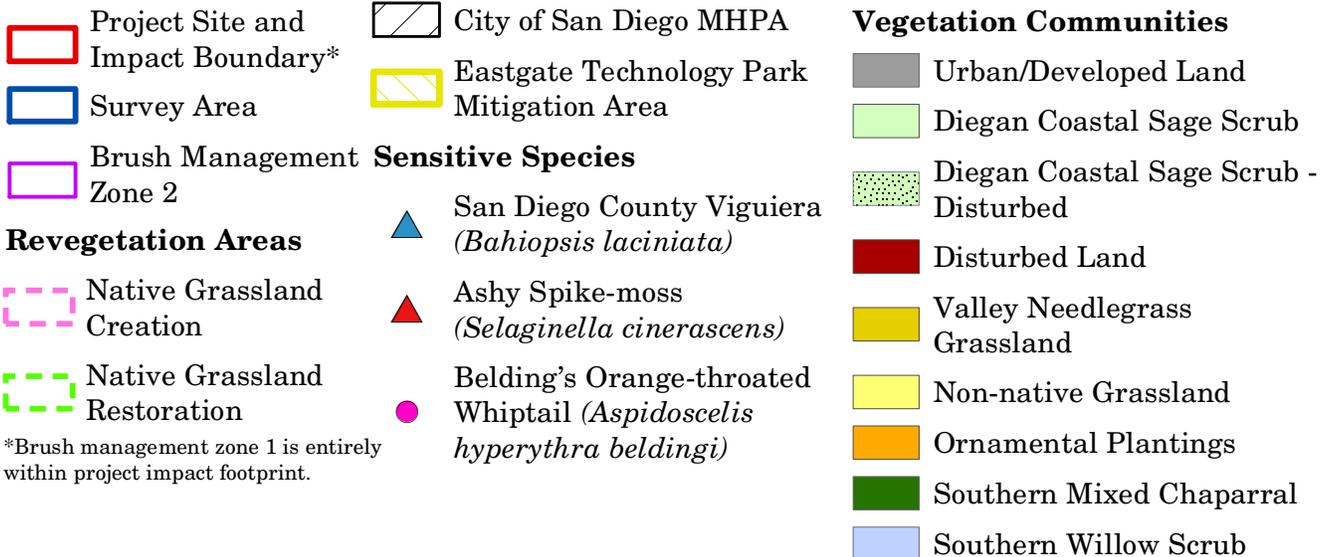
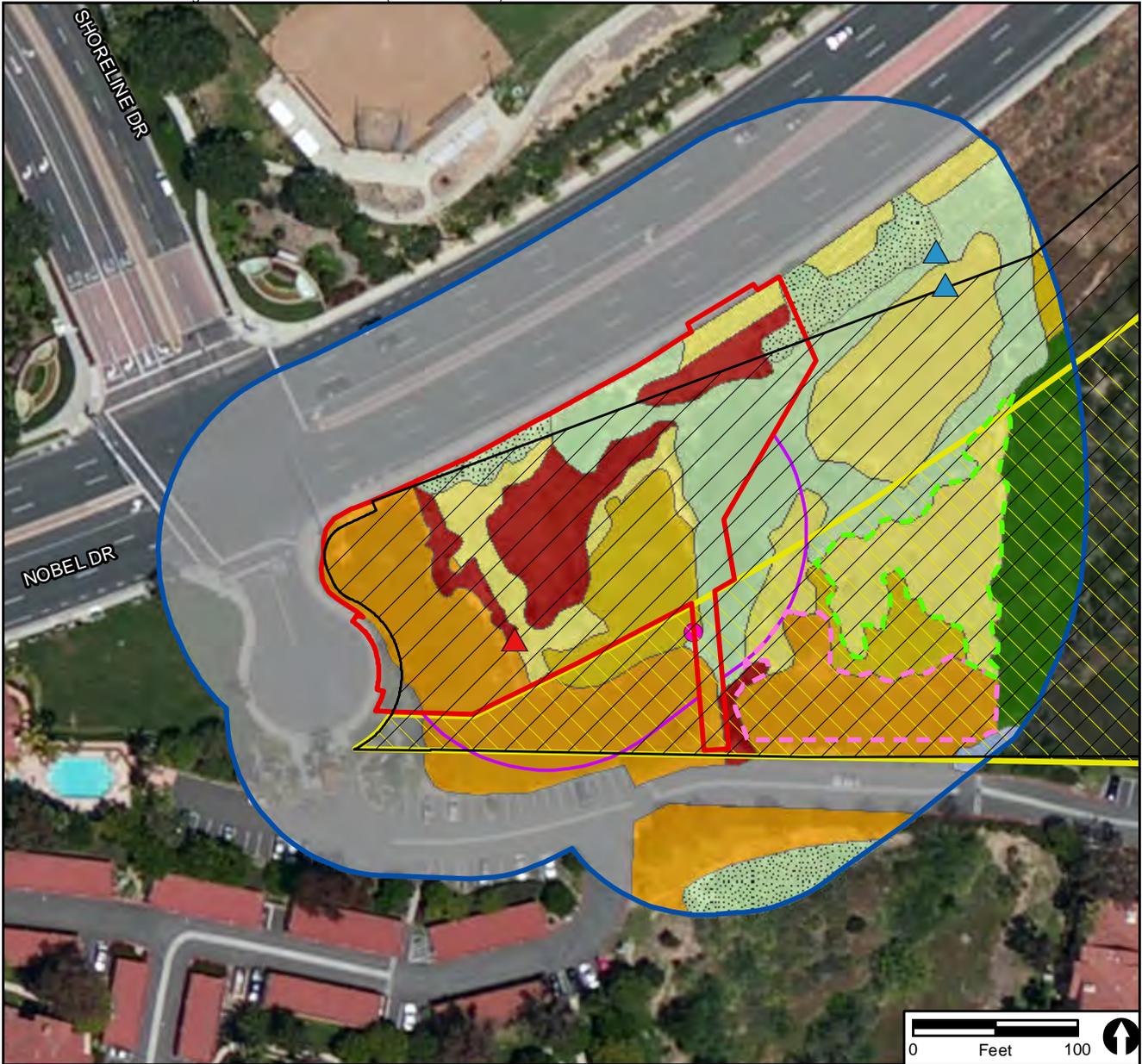
**Table 3  
Impacts to Vegetation Communities/Land Cover Types  
(Acres)**

Vegetation Community	City of San Diego Tier*	Existing in Survey Area			Direct Impacts				Impact Neutral (BMZ 2) <sup>1</sup>			
		Within MHPA <sup>2</sup>	Outside MHPA	Total	Within MHPA <sup>2</sup>		Outside MHPA	Total	Within MHPA <sup>2</sup>		Outside MHPA	Total
					Outside Mitigation Parcel	Within Mitigation Parcel			Outside Mitigation Parcel	Within Mitigation Parcel		
Southern willow scrub	Riparian	0.01	<0.01	<b>0.01</b>	0.00	0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	<b>0.00</b>
Valley needlegrass grassland	I	0.24	0.00	<b>0.24</b>	0.12	<0.01 <sup>3</sup>	0.00	<b>0.12</b>	0.01	0.02	0.00	<b>0.03</b>
Diegan coastal sage scrub	II	0.42	0.11	<b>0.53</b>	0.16	0.01	0.03	<b>0.20</b>	0.05	0.03	0.00	<b>0.08</b>
Disturbed Diegan coastal sage scrub	II	0.02	0.16	<b>0.18</b>	0.02	0.00	0.02	<b>0.04</b>	0.00	0.00	0.00	<b>0.00</b>
Southern mixed chaparral	IIIA	0.22	0.00	<b>0.22</b>	0.00	0.00	0.00	<b>0.00</b>	0.00	0.00	0.00	<b>0.00</b>
Non-native grassland	IIIB	0.57	0.09	<b>0.66</b>	0.11	0.00	0.03	<b>0.14</b>	0.01	0.03	0.00	<b>0.04</b>
Disturbed land	IV	0.19	0.03	<b>0.22</b>	0.17	<0.01 <sup>3</sup>	0.03	<b>0.20</b>	0.00	0.00	0.00	<b>0.00</b>
Ornamental plantings	IV	0.56	0.22	<b>0.78</b>	0.19	0.01	0.02	<b>0.22</b>	0.01	0.13	0.02	<b>0.16</b>
Urban/developed land	N/A	0.02	1.82	<b>1.84</b>	0.00	0.00	0.02	<b>0.02</b>	0.00	0.00	0.00	<b>0.00</b>
<b>Total</b>		<b>2.24</b>	<b>2.43</b>	<b>4.68</b>	<b>0.77</b>	<b>0.02</b>	<b>0.15</b>	<b>0.94</b>	<b>0.08</b>	<b>0.21</b>	<b>0.02</b>	<b>0.31</b>

<sup>1</sup> The acreage for BMZ 2 reflects only those areas outside the project grading footprint.

<sup>2</sup> Within the project site, the MHPA coincides with the boundary of the existing mitigation area.

<sup>3</sup> Actual impact is 76 square feet for valley needlegrass grassland and 110 square feet for disturbed land.



**FIGURE 8**  
Impacts and Mitigation

Therefore, impacts to 0.12 acre of valley needlegrass grassland, 0.24 acre of Diegan coastal sage scrub (including disturbed), and 0.14 acre of non-native grassland would be considered significant and mitigation would be required. Impacts to disturbed land, ornamental plantings, and urban/developed lands would be less than significant as these are not considered sensitive by the City or other resource agencies. Per the City's Significance Determination Thresholds, impacts to valley needlegrass grassland would be considered a significant cumulative impact and would require additional mitigation.

BMZ 2 would extend in several areas beyond the grading footprint and into undeveloped areas. Most of this area lies within existing ornamental vegetation (0.16 acre, including 0.14 acre within the MHPA). However, a portion of the BMZ 2 area would intersect Tiers 1 through IIIB vegetation, including 0.03 acre of valley needlegrass grassland (all within the MHPA including 0.02 acre within the Mitigation Parcel), 0.08 acre of Diegan coastal sage scrub (all within the MHPA including 0.03 acre within the Mitigation Parcel), and 0.04 acre of non-native grassland (all within the MHPA including 0.03 acre within the Mitigation Parcel). Pursuant to the City's Biology Guidelines, effects from BMZ 2 outside the grading footprint are considered impact neutral and would not require mitigation.

### **6.1.2 MHPA**

As described in Section 6.1.1 and Table 3, the proposed project would cause direct impacts to 0.79 acre within the MHPA. A full discussion of the project's consistency with the MSCP is presented as Section 6.4.

### **6.1.3 Conserved Lands**

As previously discussed, the Mitigation Parcel in the southern portion of the project site was designated as conserved lands in 1996 to mitigate impacts caused by development of the Eastgate Technology Park. These impacts are discussed in Section 6.1.1 and quantified in Table 3.

### **6.1.4 Direct Impacts to Sensitive Plant Species**

The proposed project would impact an approximately 6-square-foot patch of ashy spike-moss within the project site but would avoid impacts to the nine San Diego County viguiera observed within the survey area. Impacts to ashy spike-moss would not be considered significant due to the relatively small area affected and the low sensitivity status of the species. Neither spreading navarretia nor its critical habitat would be impacted.

### **6.1.5 Direct Impacts to Wildlife**

This section discusses potential impacts to sensitive wildlife observed or with moderate to high potential to occur in the project site.

### 6.1.5.1 Sensitive Species

**Belding's orange-throated whiptail** was observed during surveys and is considered present throughout the Diegan coastal sage scrub, valley needlegrass grassland, and non-native grassland within the project site. Thus, a total of 0.50 acre of occupied Belding's orange-throated whiptail habitat would be directly impacted (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA). Impacts to Belding's orange-throated whiptail would be considered significant and would require mitigation.

The MSCP conditions for coverage for Belding's orange-throated whiptail require development projects to address edge effects. Unauthorized trails and other signs of frequent human recreational access were present throughout the undeveloped areas within and surrounding the survey area, including within the MHPA. Furthermore, as the site is located along a busy road and across the street from an athletic field, there is currently no barrier to such access. As a fire station with a relatively low level of public access, the proposed project would not increase unauthorized human access into the MHPA, and would include landscaping and other facilities that would deter further access from the fire station itself.

**Red diamond rattlesnake** is a CDFW species of special concern. It was determined to have moderate potential to occur in Diegan coastal sage scrub, valley needlegrass grassland, and non-native grassland within the project site and survey area. Therefore, potential direct impacts to this species would total of 0.50 acre (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA). This direct impact to suitable red diamond rattlesnake habitat would be considered significant and would require mitigation.

**Coast horned lizard** is a CDFW species of special concern and an MSCP-covered species. It was not detected within the survey area; however, it was determined to have moderate potential to occur within the coastal sage scrub in the survey area. Therefore potential direct impacts to this species would total 0.24 acre (including 0.19 acre within the MHPA and 0.05 acre outside the MHPA). This direct impact to suitable coast horned lizard habitat would be considered significant and would require mitigation.

The MSCP conditions for coverage for coast horned lizard require projects to include specific measures to maintain native ant species, discourage the Argentine ant (*Linepithema humile*), and protect against detrimental edge effects to this species. Argentine ants were detected on-site within Diegan coastal sage scrub and urban/developed land (see Attachment 2), and their presence will continue to be supported by irrigation associated with the large multi-family residential developments and the athletic field in the area. Even so, project landscaping will consist of native species, which are drought-tolerant and require less irrigation than typical landscaping plants. All container plant stock will be required to be inspected by the project biologist (preferably off-site prior to shipment to the site). The biologist shall reject any plants that show evidence of non-native ants.

**Coastal California gnatcatcher** was not detected during protocol gnatcatcher surveys conducted in 2015; however, it has moderate potential to occur within the project site.

Potential impacts to this species, if present, would be considered significant and would require mitigation.

The MSCP conditions for coverage for the coastal California gnatcatcher require measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality including vegetation structure. No clearing of occupied habitat within the City's MHPAs and within the County's Biological Resource Core Areas may occur between March 1 and August 15. As mentioned above, the proposed project is not expected increase unauthorized human access into the MHPA, and would include landscaping and other facilities that would deter further access from the fire station itself.

**Southern California rufous-crowned sparrow** was not detected within the project site during directed searches in 2015. Nonetheless, it has moderate potential to occur in the project site. Impacts to this species would be considered significant and would require mitigation.

The MSCP conditions for coverage of southern California rufous-crowned sparrow include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components. As mentioned above, the proposed project is not expected increase unauthorized human access into the MHPA, and would include landscaping and other facilities that would deter further access from the fire station itself.

**Cooper's hawk** is a CDFW Watch List species and is an MSCP-covered species. It has no potential to nest within the survey area; however, due to the presence of potential nesting trees in Rose Canyon to the south and at the athletic fields to the north, it has high potential to forage in the project site and survey area. Because no nesting is expected, no direct impacts to Cooper's hawk would occur.

The MSCP conditions for coverage for Cooper's hawk include a 300-foot impact avoidance area around active nests, and minimization of disturbance in oak woodlands and oak riparian forests. As discussed in Section 5.4.2, Cooper's hawks have high potential to occur in trees along Rose Creek approximately 750 feet south of the project site. These trees are relatively far from the project site and separated by an existing apartment complex. As a result, any Cooper's hawks or other raptors nesting in these trees would not be impacted by the project. Cooper's hawks have low potential to occur in the landscaping trees within 300 feet of the project site, as these are situated adjacent to an active athletic field along a busy roadway. Thus, project construction is not expected to affect Cooper's hawks or other nesting raptors.

**Western bluebird** was observed in the vicinity of the athletic fields over 100 feet from the project site. No suitable habitat for this species occurs within the project site. Therefore no significant impact to western bluebird would occur.

**San Diego black-tailed jackrabbit** was not detected during surveys; however, this species was determined to have moderate potential to occur in the valley needlegrass

grassland, Diegan coastal sage scrub, and non-native grassland within the survey area. Therefore, potential direct impacts to this species would total of 0.50 acre (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA). Impacts to San Diego black-tailed jackrabbit would be considered significant and would require mitigation.

**San Diego desert woodrat** was determined to have low potential to nest but moderate potential to forage in the survey area. Such foraging would likely occur in the valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland within the survey area. Woodrats would be expected to be in their middens (which were not found in the project site and would not be directly impacted) during the day, and any active foraging woodrats would be expected to retreat to the middens during clearing, grading, and grubbing. Thus, San Diego desert woodrat would not be directly impacted by the proposed project, but 0.50 acre (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA) of suitable foraging habitat be impacted. Impacts to San Diego desert woodrat foraging habitat would be considered significant and would require mitigation.

### **6.1.5.2 General Wildlife**

Direct impacts are anticipated to occur to small burrowing mammals and reptiles during grading of the project site. Such species have low mobility and may be expected to retreat to burrows within the grading footprint during construction. Any birds that are not nesting are highly mobile and are expected to avoid being impacted. Impacts to general wildlife are, therefore, considered less than significant and would not require mitigation.

### **6.1.5.3 Nesting Birds**

The proposed project has potential to directly impact nesting and migratory birds nesting covered by the MBTA during vegetation clearing. Species covered by the MBTA that may potentially nest in the project area include (but are not limited to) common sage scrub species such as black phoebe (*Sayornis nigricans semiatra*), western scrub-jay (*Aphelocoma californica*), bushtit (*Psaltriparus minimus minimus*), wrenit (*Chamaea fasciata henshawi*), and California towhee (*Pipilo crissalis*). Direct impacts to nesting migratory birds would be considered significant and require mitigation.

## **6.2 Indirect Impacts**

The project has the potential to inadvertently indirectly impact sensitive native and non-native habitats that may also be occupied by sensitive species. For this reason, biological monitoring during construction is outlined in the mitigation section.

### **6.2.1 Indirect Impacts to Nesting Birds**

The proposed project has potential to cause indirect impacts to nesting birds, including Cooper's hawk (which may nest in large trees to the north of the project site) and migratory bird species within Diegan coastal sage scrub and grassland habitats within the MHPA adjacent to the project site. Such potential indirect impacts could occur due to dust or noise

levels generated during project construction and vegetation removal. Impacts to Cooper's hawk and migratory or nesting birds would be considered significant and require mitigation, including biological monitoring and avoidance of typical nesting periods. Further details are outlined in the Mitigation section (Section 7.0). Noise from the operations phase of the project would primarily occur as a result of sirens from emergency vehicles. As discussed in the noise report (RECON 2016), sirens are anticipated to be used for less than 30 seconds approximately 11 times per day. This frequency and duration is not expected to result in a significant impact to breeding migratory birds potentially breeding in the nearby habitat.

Protocol coastal California gnatcatcher surveys conducted in 2015 were negative. However, there is suitable habitat within 300 feet of the project site. Therefore there is a moderate potential for this species to be indirectly impacted due to the proposed project. Indirect impacts to coastal California gnatcatcher would be considered significant and would require mitigation.

## **6.2.2 MHPA**

In addition to direct impacts to biological resources both outside and inside the MHPA, the project has potential to cause indirect impacts to biological resources in the MHPA along the eastern and southern boundaries. As stated in the MSCP Section 1.4.3 (City of San Diego 1997), land uses adjacent to the MHPA are to be managed to ensure minimal impacts to the MHPA. The MSCP establishes adjacency guidelines to be addressed on a project-by-project basis to minimize direct and indirect impacts and maintain the function of the MHPA. A discussion of project actions to reduce impacts within the MHPA is presented in Section 6.4, and Land Use Adjacency Guidelines are specifically addressed in Section 6.4.3.

## **6.2.3 Applicable Area Specific Management Directives**

The MSCP identifies general and specific management directives, which are intended to preclude impacts, particularly those related to urban edge effects which include (but are not limited to) trampling, dumping, vehicular traffic, competition with invasive species (i.e., parasitism or predation from invasive animal species and habitat degradation from introduction of non-native plant species), predation by domestic animals, noise, collecting, recreational activities, and other human intrusion (City of San Diego 1997). The MSCP, Appendix A (1997), also outlines species specific conditions of coverage for all covered species. As discussed in Section 5.4, no covered species were detected within the survey area. Ashy spike-moss and San Diego viguiera are ranked as sensitive by the CNPS, but the MSCP does not identify Area Specific Management Directives for either species.

Critical habitat for spreading navarretia, an MSCP-covered species, occurs to the east of the site but not within the survey area. Conditions for coverage for this species state:

Area specific management directives must include specific measures to protect against detrimental edge effects to this species, and must incorporate measures to conserve and maintain surrounding habitat for 1) pollinators and 2) as part of the hydrological system for the vernal pools.

As spreading navarretia was not detected in the survey area, it therefore would not be directly impacted by the project. The project itself would be fenced and would not be expected to contribute to detrimental edge effects to this species, its critical habitat, or any vernal pools. Thus, it is expected to be consistent with the conditions for coverage for this species.

Conditions of coverage for covered wildlife species were outlined in Section 6.1.5.1.

## **6.3 Jurisdictional Waters/Wetland Impacts**

No jurisdictional features occur within the survey area, and none would be directly or indirectly impacted by the proposed project.

## **6.4 MSCP Consistency Analysis**

This section discusses project consistency with the MHPA and Land Use Considerations per Section 1.4 of the MSCP (City of San Diego 1997).

### **6.4.1 Compatible Land Uses**

As described in Section 6.1.2 and Table 3, the proposed project would cause direct impacts to 0.79 acre within the MHPA (including 0.02 acre within the Mitigation Parcel). According to Section II.A.2 and II.B.1 of the City's Biology Guidelines (2012), essential public facilities are allowed to impact up to 30 percent of a parcel. As the project is a fire station that will serve the public interest and provide an essential service to the surrounding community, it qualifies as an essential public facility and is therefore a compatible land use within the MHPA per Section 1.4.1 of the MSCP (City of San Diego 1997). The total project impact represents less than 1 percent to the total lot acreage (92 acres), which is far below the 30 percent allowed for essential public facilities. Because total direct impacts are below this 30 percent threshold, an MHPA boundary line adjustment would not be required.

### **6.4.2 General Planning Policies and Design Guidelines.**

Section 1.4.2 of the MSCP provides general planning and design guidelines for utility projects as they relate to the MHPA. The relevant guidelines are summarized and addressed as follows.

## Roads and Utilities- Construction and Maintenance Policies

1. **All proposed utility lines should be designed to avoid or minimize intrusion into the MHPA.** The project is not a utility line; however it was designed to be situated in the northwest corner of the lot, along two existing roadways, and in such a way that minimized intrusion into the MHPA.
2. **All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts.** The project was designed to be situated in the northwest corner of the lot, along two existing roadways, and in such a way that minimized intrusion into the MHPA.
3. **Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable.** The project does not include any temporary roads or staging areas outside the assessed permanent impact footprint. Thus it would impact the minimum area feasible.
4. **Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage.** A discussion of wildlife corridors is presented in Section 5.8. The project is largely located outside any substantial wildlife corridors and therefore would not disrupt corridor usage.
5. **Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads.** The project is located at the intersection of Shoreline Drive and Nobel Drive and proposes driveway access to both, and therefore does not propose any additional roads.
6. **Development of roads in canyon bottoms should be avoided whenever feasible.** The project is not situated in a canyon bottom and therefore avoids development of such roads.
7. **Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas.** The project does not propose any new roads, but rather includes short driveways to two existing roads.
8. **For the most part, existing roads and utility lines are considered a compatible use within the MAP and therefore will be maintained.** The project does not propose any additional roads or utility lines; however as an essential public facility, it would be maintained in accordance with current standards.

## Fencing, Lighting, and Signage

1. **Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent land uses compatible with the MHPA.** The proposed fire station would be fenced to provide protection for the equipment and facilities within the station, but also to provide a barrier to unauthorized access to the habitat within the surrounding MHPA.
2. **Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife.** Project lighting would be shielded and/or directed away from the MHPA. Placement and use of project lighting will accommodate the habits of nocturnal species that prefer to move and forage in darkness.
3. **Signage will be limited to access and litter control and educational purposes.** The project would include only minimal signage. Signage for the fire station would be used to identify the fire station and any regulations associated with it. Signage may also be used to limit access to the restoration area proposed in Section 7.2 and described in the native grassland restoration plan (RECON 2016).

## Materials Storage

**Prohibit storage of materials (e.g. hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any area that may impact the MHPA, especially do to potential leakage.** The proposed fire station will store large equipment and potentially hazardous materials; however these equipment and materials would be maintained and controlled in accordance with current safety regulations. No hazardous materials or equipment would be stored allowed to reach the habitat in the surrounding MHPA.

### 6.4.3 MHPA Land Use Adjacency Guidelines

Projects that impact or potentially impact land within the MHPA are required to address Land Use Adjacency Guidelines as described in Section 1.4.3 of the MSCP (City of San Diego 1997). These Land Use Adjacency Guidelines are designed to minimize direct and indirect impacts within the MHPA associated with drainage, toxics, lighting, noise, barriers, invasive, brush management, and grading/land development. A discussion of the project's consistency with the Land Use Adjacency Guidelines, as well as corresponding project actions, is presented below.

## Drainage

All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements

that might degrade or harm the natural environment or ecosystem processes within the MHPA.

The project has been designed so that runoff would be entirely treated and detained on-site via flow-through planters and rip rap, and therefore would not drain into the MHPA. The drainage facilities would be required to be maintained by the City in association with ongoing fire station facility maintenance.

## **Toxics**

Land uses, such as recreation, urban landscaping, and agriculture, that use chemicals or generate by-products, such as manure, that are potentially toxic or impactful to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by application or drainage of such materials into the MHPA.

The project would incorporate measures to reduce impacts caused by the application and/or drainage of chemicals or project generated by-products such as pesticides, herbicides, animal waste, and other substances that are potentially toxic or impactful to native habitats/flora/fauna (including water) into the MHPA. All construction-related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owner's Representative or Resident Engineer to ensure there is no impact to the MHPA. The project has been designed to limit post-development storm water runoff discharge rates and velocities and to maintain or reduce potential erosion and to reduce nutrients, organic compounds, oxygen-demanding substances, oil and grease, bacteria and viruses, and pesticides by applying best management practices (BMPs).

Construction BMPs, such as monitoring, flagging, staking, or silt/bio fencing around sensitive areas would be used to ensure toxins from construction and project implementation would not impact the MHPA.

## **Lighting**

Lighting of all developed areas within and adjacent to the MHPA would be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.

Project lighting would be shielded and/or directed away from the MHPA. As some species rely on darkness for shelter, feeding patterns, migration, etc., the areas adjacent to any MHPA will be especially sensitive to light exposure. Placement and use of project lighting will accommodate the habits of nocturnal species that prefer to move and forage in darkness.

## **Noise**

Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and other

uses that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.

## **Construction Noise**

Although coastal California gnatcatchers were not observed in or adjacent to the project site during protocol surveys in 2015 or during the non-protocol survey conducted in 2016, this species has moderate potential to occur there. Therefore, construction noise that exceeds the maximum levels allowed shall be avoided during the gnatcatcher breeding season (March 1 – August 15). If construction is proposed during the above breeding season for the species, USFWS protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat for the aforementioned listed species, presence shall be assumed and noise attenuation measures and biological monitoring shall be implemented.

## **Operational Noise**

Noise from fire engine and ambulance sirens would generate a maximum instantaneous noise level of 120 A-weighted decibels dB(A) with an average duration of less than 30 seconds approximately 11 times per day. This duration is below a level that is expected to interfere with wildlife breeding behavior. Therefore no indirect impacts to wildlife are anticipated from the sirens. In addition, the sirens are associated with emergency response and are, therefore, exempt from noise standards in the Noise Ordinance (Municipal Code Section 59.5.0402[b]). Other operational noise, such as garage bay door operation, generator testing and operation, and recharge of the self-contained breathing apparatuses would not be exempt. According to the modeling discussed in the noise report, these non-exempt operational noise sources are not expected to generate noise in excess of 60 dB(A) hourly average within the surrounding MHPA (RECON 2016).

## **Barriers/Access**

New development within or adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation. Access to the MHPA, if any, should be directed to minimize impacts and reduce impacts associated with domestic pet predation.

At present, the MHPA in the vicinity of the proposed project is situated adjacent to a moderately busy road and across the street from an athletic field. No fences or other barriers are in place along Nobel Drive and a moderate level of recreational activity currently occurs in these adjacent areas. As a fire station, the proposed project is not expected to contribute to potential unauthorized access to the adjacent MHPA. On the contrary, the presence of the fire station and its facilities would be expected to reduce potential encroachment.

## Invasive Plants

No invasive plant species shall be introduced into areas adjacent to the MHPA.

The planting palette for project landscaping will not include any invasive plant species adjacent to the MHPA area that are identified on the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory Database (Cal-IPC 2016). A list of non-native invasive species observed within the survey area is included below. This list includes species on the Cal-IPC list as well as other species recommended for inclusion by City staff (City of San Diego 2016). Should these or other Cal-IPC listed species occur within the development and landscaped areas within or adjacent to the MHPA, they would be removed or controlled to the degree feasible:

<u>Species</u>	<u>Cal-IPC Rating</u>
western coastal wattle ( <i>Acacia cyclops</i> )	Not listed
vanilla scented wattle ( <i>Acacia redolens</i> )	Not listed
Australian saltbush ( <i>Atriplex semibaccata</i> )	Moderate
wild oat ( <i>Avena</i> sp.)	Limited
purple falsebrome ( <i>Brachypodium distachyon</i> )	Moderate
black mustard ( <i>Brassica nigra</i> )	Moderate
ripgut grass ( <i>Bromus diandrus</i> )	Moderate
soft chess ( <i>Bromus hordeaceus</i> )	Limited
red brome ( <i>Bromus madritensis</i> ssp. <i>rubens</i> )	High
Italian thistle ( <i>Carduus pycnocephalus</i> )	Moderate
totalote ( <i>Centaurea melitensis</i> )	Moderate
iceplant ( <i>Delosperma</i> sp.)	Not listed
stinkwort ( <i>Dittrichia graveolens</i> )	Moderate
rattail sixweeks grass ( <i>Festuca myuros</i> )	Moderate
fennel ( <i>Foeniculum vulgare</i> )	High
garland daisy ( <i>Glebionis coronaria</i> )	Moderate
bristly ox-tongue ( <i>Helminthotheca echioides</i> )	Limited
short-pod mustard ( <i>Hirschfeldia incana</i> )	Moderate
horehound ( <i>Marrubium vulgare</i> )	Limited
slender-leaved iceplant ( <i>Mesembryanthemum nodiflorum</i> )	Moderate
radish ( <i>Raphanus sativus</i> )	Limited
curly dock ( <i>Rumex crispus</i> )	Limited
Russian thistle ( <i>Salsola tragus</i> )	Limited
Brazilian pepper tree ( <i>Schinus terebinthifolius</i> )	Limited
Mediterranean schismus ( <i>Schismus barbatus</i> )	Limited
London rocket ( <i>Sisymbrium irio</i> )	Moderate
smilo grass ( <i>Stipa miliacea</i> )	Limited

Any individuals of these species would be removed from the premises during the construction process and would not be included in the landscaping plant palette. Additionally, according to City standards for brush management, Zone 2 will include only native plants.

### **Brush Management**

New development located adjacent to the MHPA must be set back to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zone 2 may be located in the MHPA except where narrow wildlife corridors require it to be located outside the MHPA. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible.

The proposed project has been designed with the fire station building positioned in the northern portion of the project site and as far west (away from the MHPA) as possible. With this placement, all BMZ 1 would lie within the existing development footprint where or within existing developed areas. BMZ 2 extends into the MHPA to the south of the project site as allowed by the MSCP.

### **Grading/Land Development**

Manufactured slopes associated with site development shall be included with the development footprint for projects within or adjacent to the MHPA. All grading for the proposed project would occur within the project site and associated impacts are assessed in this report.

## **7.0 Mitigation**

Mitigation is required for project impacts that are considered significant under CEQA (City 2011), including impacts to sensitive vegetation communities (habitats) and species. All impacts to sensitive biological resources should be avoided to the maximum extent feasible, and minimized prior to proposing mitigation whenever possible. Mitigation measures typically include resource avoidance or dedication/acquisition of habitat, and restoration, creation, or enhancement. Mitigation is intended to reduce the impacts to below a level of significant.

Impacts to biological resources would be mitigated, in part via biological protections during construction, (includes monitoring, preconstruction meetings, and development of a Biological Condition Monitoring Exhibit, etc.) and standard MSCP Land Use adjacency mitigation.

## 7.1 General Mitigation Measures During Construction

The following City standard mitigation would be included in the environmental document:

### BIOLOGICAL RESOURCE PROTECTION DURING CONSTRUCTION

#### I. Prior to Construction

**Biologist Verification** - The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist) as defined in the City of San Diego's Biological Guidelines (2012), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.

- A. **Preconstruction Meeting** - The Qualified Biologist shall attend the preconstruction meeting, discuss the project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, habitat creation and restoration, and additional fauna/flora surveys/salvage.
- B. **Biological Documents** - The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, MSCP, Environmentally Sensitive Lands Ordinance, project permit conditions; CEQA; endangered species acts (ESAs); and/or other local, state or federal requirements.
- C. **Biological Construction Mitigation/Monitoring Exhibit** - The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes the biological documents in C above. In addition, include: restoration plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/ barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City Administrator Deputy Director/MMC. The BCME shall include a site plan, written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.
- D. **Avian Protection Requirements** - To avoid any direct impacts to coastal California gnatcatcher, raptors, and migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (March 1 to August 15 for gnatcatchers; February 1 to September 15 for raptors). If removal of habitat in the proposed area of

disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City DSD for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable State and Federal Law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's MMC Section or Resident Engineer, and Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

- F. **Resource Delineation** - Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site.
- G. **Education** - Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

## II. During Construction

- A. **Monitoring** - All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSV). The CSV shall be e-mailed to MMC on the 1<sup>st</sup> day of monitoring, the 1<sup>st</sup> week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

- B. **Subsequent Resource Identification** - The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (e.g., flag plant specimens for avoidance during access, etc.). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the Qualified Biologist.

### III. Post Construction Measures

- A. In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City Biology Guidelines, ESL and MSCP, CEQA, and other applicable local, state and federal law. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City ADD/MMC within 30 days of construction completion.

## 7.2 Mitigation for Impacts to Vegetation/ Land Cover Types

Mitigation to offset impacts to sensitive vegetation communities may occur through one of three options: (1) acquisition and preservation of existing habitat, (2) restoration and preservation of degraded habitat in the project vicinity, or (3) contribution to the City's Habitat Acquisition Fund. Mitigation will be required to comply with the City's Biological Impacts and Monitoring MMRP Conditions. A copy of these conditions is included as Attachment 5.

The mitigation ratios used to offset impacts to sensitive vegetation communities in this report assume mitigation will occur within the MHPA (Table 4). Impacts within the Mitigation Parcel would need to be replaced as part of the mitigation program for the proposed project. Thus, these impacted areas would require an additional 1:1 mitigation ratio, on top of that required per the City's Biology Guidelines (City of San Diego 2012).

### 7.2.1 Valley Needlegrass Grassland

Direct impacts to 0.12 acre of valley needlegrass grassland would be considered a significant direct impact as well as a cumulatively significant impact. In addition, all direct impacts to valley needlegrass grassland would occur within the MHPA, less than 0.01 acre (76 square feet) of which would occur within the Mitigation Parcel. The impact would require mitigation (see Table 4), as follows:

- 3:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel), to be met with native grassland creation or restoration in the project vicinity,
- 4:1 mitigation ratio for impacts to the Mitigation Parcel, to be met with native grassland creation or restoration in the project vicinity.

Table 4 [NEW TABLE] Mitigation For Impacts to Vegetation Communities/Land Cover Types (Acres)						
Vegetation Community	City of San Diego Tier	Impacts				Total Mitigation
		Impact Location	Impacts	Mitigation Ratio <sup>1</sup>	Mitigation	
Valley needlegrass grassland	I	Inside MHPA, Outside Mit. Parcel	0.12	3:1 <sup>2</sup>	0.36	0.367
		Inside MHPA, Inside Mit. Parcel	<0.01 (76 sf)	4:1 <sup>3</sup>	0.007 (304 sf)	
Diegan coastal sage scrub	II	Inside MHPA, Outside Mit. Parcel	0.16	1:1	0.16	0.21
		Inside MHPA, Inside Mit. Parcel	0.01	2:1 <sup>3</sup>	0.02	
		Outside MHPA	0.03	1:1	0.03	
Disturbed Diegan coastal sage scrub	II	Inside MHPA, Outside Mit. Parcel	0.02	1:1	0.02	0.04
		Outside MHPA	0.02	1:1	0.02	
Non-native grassland	IIIB	Inside MHPA, Outside Mit. Parcel	0.11	1:1	0.11	0.125
		Outside MHPA	0.03	0.5:1	0.015	
<b>Total</b>			<b>0.42</b>			<b>0.742</b>

<sup>1</sup> Mitigation ratios assume all mitigation will occur within the MHPA.  
<sup>2</sup> Includes 2:1 mitigation ratio for direct impacts, plus 1:1 ratio for cumulative impacts. Cumulative impacts would require mitigation via native grassland creation.  
<sup>3</sup> Includes an additional 1:1 mitigation ratio for impacts to mitigation area. Cumulative impacts require mitigation via native grassland creation.

Thus, impacts within the Mitigation Parcel would require mitigation at a total 4:1 ratio, while impacts outside the Mitigation Parcel (but still inside the MHPA) would require mitigation at a total 3:1 ratio. In total, the mitigation program will include a total of 0.367 acre of native grassland restoration. These measures would be implemented as described in the native grassland restoration plan (RECON 2016). The restoration areas would be located within areas of non-native vegetation communities (non-native grassland, ornamental plantings, and disturbed land) just east of the proposed fire station (see Figure 8). This area was chosen because it is close to the project site, within the MHPA, and adjacent to an existing small patch of valley needlegrass grassland.

## 7.2.2 Diegan Coastal Sage Scrub

Impacts to 0.20 acre of Diegan coastal sage scrub, including disturbed Diegan coastal sage scrub, within the MHPA would require mitigation as follows:

- 1:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel).
- 2:1 mitigation ratio for direct impacts within the Mitigation Parcel.
- 1:1 mitigation ratio for impacts outside the MHPA.

Thus, the mitigation program would require a total of 0.25 acre of in-kind preservation (see Table 4).

### 7.2.3 Non-native Grassland

Impacts to 0.11 acre of non-native grassland within the MHPA would require mitigation as follows:

- 1:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel),
- 0.5:1 mitigation ratio for impacts outside the MHPA.

Therefore, the mitigation program would require a total of 0.125 acre of in-kind preservation.

To the degree feasible, areas of cryptogamic soils should be carefully excavated prior to project grading. Care should be taken to keep the crust intact during excavation, and the salvaged soil should be stored off-site to be used in the native grassland creation and restoration areas.

## 7.3 Mitigation for Impacts to Wildlife Species

Mitigation for potential impacts to sensitive wildlife species would include the general mitigation measures during construction described in Section 7.1. Additionally mitigation for impacted sensitive species would include the following specific measures:

**Belding's orange-throated whiptail:** Direct impacts to Belding's orange-throated whiptail would be offset through the proposed 0.742 acre of habitat-based mitigation described in Section 7.2.

**Red diamond rattlesnake:** Potential impacts to red diamond rattlesnake would be offset with the restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA, as described in Section 7.2 above.

**Coast horned lizard:** The project would be required to include measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this species. To accomplish this, during initial landscaping, container plant stock should be inspected by the project biologist (preferably off-site prior to shipment to the site). The biologist shall reject any plants that show evidence of non-native ants.

**Coastal California gnatcatcher:** If construction activities are to occur during the breeding season of the coastal California gnatcatcher (March 1 – August 15), the project shall be conditioned to comply with the City's standard Land Use Adjacency Guidelines mitigation monitoring and reporting measures as described in Section 7.4, below, in order to avoid or reduce potential indirect and construction impacts to this species.

**Southern California rufous-crowned sparrow:** Direct impacts to southern California rufous-crowned sparrow would be offset with the with restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA, as described in Section 7.2 above.

**San Diego black-tailed jackrabbit:** Potential impacts to San Diego black-tailed jackrabbit would be offset with restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA, as described in Section 7.2 above.

**San Diego desert woodrat:** Potential impacts to San Diego desert woodrat would be offset with restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA, as described in Section 7.2 above.

**Nesting raptors and birds:** To avoid impacts to raptors, including Cooper’s hawk, no grading activities shall occur during the raptor breeding season of February 1 through September 15. If construction activities are anticipated to occur during the breeding season, then pre-grading nest surveys should be conducted to determine if raptors are nesting in trees on the site. If active nests are present, appropriate construction setbacks of a minimum of 300 feet would be required until young are completely independent of the nest. If no nesting raptors are detected during the pre-construction survey, no mitigation is required.

Nesting bird mitigation is outlined above in Section 7.1.

## **7.4 Land Use Adjacency Guidelines Mitigation Monitoring Measures**

As the project occurs within and adjacent to the MHPA, the project would be required to comply with the following Land Use Adjacency Guidelines standard mitigation monitoring and reporting measures would apply:

Prior to issuance of any construction permit or notice to proceed, DSD/ LDR, and/or MSCP staff shall verify the Applicant has accurately represented the project’s design in or on the Construction Documents (CD’s/CD’s consist of Construction Plan Sets for Private Projects and Contract Specifications for Public Projects) are in conformance with the associated discretionary permit conditions and Exhibit “A,” and also the City’s Multi-Species Conservation Program (MSCP) Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines. The applicant shall provide an implementing plan and include references on/in CD’s of the following:

- A. **Grading/Land Development/MHPA Boundaries** – MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. DSD Planning and/or MSCP staff shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and

development within or adjacent to the MHPA. For projects within or adjacent to the MHPA, all manufactured slopes associated with site development shall be included within the development footprint.

- B. **Drainage** – All new and proposed parking lots and developed areas in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.
- C. **Toxics/Project Staging Areas/Equipment Storage** – Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactful to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall be incorporated into leases on publicly-owned property when applications for renewal occur. Provide a note in/on the CD's that states: "All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact to the MHPA."
- D. **Lighting** – Lighting within or adjacent to the MHPA shall be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740.
- E. **Barriers** – New development within or adjacent to the MHPA shall be required to provide barriers (e.g., non-invasive vegetation; rocks/boulders; 6-foot high, vinyl-coated chain link or equivalent fences/walls; and/or signage) along the MHPA boundaries to direct public access to appropriate locations, reduce domestic animal predation, protect wildlife in the preserve, and provide adequate noise reduction where needed.
- F. **Invasives** – No invasive non-native plant species shall be introduced into areas within or adjacent to the MHPA.

The planting palette for project landscaping will not include any invasive plant species adjacent to the MHPA area that are identified on the Cal-IPC Invasive Plant Inventory Database (Cal-IPC 2016). A list of non-native invasive species observed within the survey area is included below. This list includes species on the Cal-IPC list as well as other species recommended for inclusion by City staff (City of San Diego 2016). Should these or other Cal-

IPC listed species occur within the development and landscaped areas within or adjacent to the MHPA, they would be removed or controlled to the degree feasible:

<u>Species</u>	<u>Cal-IPC Rating</u>
western coastal wattle ( <i>Acacia cyclops</i> )	Not listed
vanilla scented wattle ( <i>Acacia redolens</i> )	Not listed
Australian saltbush ( <i>Atriplex semibaccata</i> )	Moderate
wild oat ( <i>Avena</i> sp.)	Limited
purple falsebrome ( <i>Brachypodium distachyon</i> )	Moderate
black mustard ( <i>Brassica nigra</i> )	Moderate
ripgut grass ( <i>Bromus diandrus</i> )	Moderate
soft chess ( <i>Bromus hordeaceus</i> )	Limited
red brome ( <i>Bromus madritensis</i> ssp. <i>rubens</i> )	High
Italian thistle ( <i>Carduus pycnocephalus</i> )	Moderate
totalote ( <i>Centaurea melitensis</i> )	Moderate
iceplant ( <i>Delosperma</i> sp.)	Not listed
stinkwort ( <i>Dittrichia graveolens</i> )	Moderate
rattail sixweeks grass ( <i>Festuca myuros</i> )	Moderate
fennel ( <i>Foeniculum vulgare</i> )	High
garland daisy ( <i>Glebionis coronaria</i> )	Moderate
bristly ox-tongue ( <i>Helminthotheca echioides</i> )	Limited
short-pod mustard ( <i>Hirschfeldia incana</i> )	Moderate
horehound ( <i>Marrubium vulgare</i> )	Limited
slender-leaved iceplant ( <i>Mesembryanthemum nodiflorum</i> )	Moderate
radish ( <i>Raphanus sativus</i> )	Limited
curly dock ( <i>Rumex crispus</i> )	Limited
Russian thistle ( <i>Salsola tragus</i> )	Limited
Brazilian pepper tree ( <i>Schinus terebinthifolius</i> )	Limited
Mediterranean schismus ( <i>Schismus barbatus</i> )	Limited
London rocket ( <i>Sisymbrium irio</i> )	Moderate
smilo grass ( <i>Stipa miliacea</i> )	Limited

Any individuals of these species would be removed from the premises during the construction process and would not be included in the landscaping plant palette. Additionally, according to City standards for brush management, Zone 2 will include only native plants.

- G. **Brush Management** – New development adjacent to the MHPA shall be set back from the MHPA to provide required Brush Management Zone 1 area on the building pad outside of the MHPA. Zone 2 may be located within the MHPA provided the Zone 2 management will be the responsibility of an HOA or other private entity except where narrow wildlife corridors require it to be located outside of the MHPA. Brush management zones will not be greater in size than currently required by the City’s regulations, the amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing

when the initial clearing is done and vegetation clearing shall be prohibited within native coastal sage scrub and chaparral habitats from March 1-August 15 except where the City ADD/MMC has documented the thinning would be consist with the City's MSCP Subarea Plan. Existing and approved projects are subject to current requirements of Municipal Code Section 142.0412.

- H. **Noise** – Due to the site's location adjacent to or within the MHPA where the Qualified Biologist has identified potential nesting habitat for listed avian species, construction noise that exceeds the maximum levels allowed shall be avoided during the breeding seasons for the coastal California gnatcatcher (March 1 to August 15). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat during the breeding season for the aforementioned listed species, presence shall be assumed and implementation of noise attenuation measures and biological monitoring shall be required.

If habitat is occupied or if presence of the covered species is assumed, adequate noise reduction measures shall be incorporated such that construction noise levels at the MHPA boundary do not exceed 60 dB(A)  $L_{eq(1)}$ .

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# **ATTACHMENTS**

**ATTACHMENT 1**

**Plant Species Observed on the  
North University City Fire Station Project Site**

**Attachment 1**  
**Plant Species Observed on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Habitat	Origin
<b>LYCOPODS</b>			
<b>SELAGINELLACEAE</b>	<b>SPIKE-MOSS FAMILY</b>		
<i>Selaginella cinerascens</i> A.A. Eaton	ashy spike-moss	DCSS, VNG	N
<b>ANGIOSPERMS: MONOCOTS</b>			
<b>AGAVACEAE</b>	<b>AGAVE FAMILY</b>		
<i>Hesperoyucca [=Yucca] whipplei</i> (Torr.) Trel.	chaparral candle	DCSS, DCSS-D, DH	N
<b>ALLIACEAE</b>	<b>ONION FAMILY</b>		
<i>Allium</i> sp.	onion	VNG	N
<b>POACEAE (GRAMINEAE)</b>	<b>GRASS FAMILY</b>		
<i>Avena</i> sp.	wild oat	NNG, DCSS	I
<i>Brachypodium distachyon</i> (L.) P. Beauv.	purple falsebrome	NNG, DCSS, NG	I
<i>Bromus diandrus</i> Roth	ripgut grass	NNG, DCSS, DH	I
<i>Bromus hordeaceus</i> L.	soft chess	NNG, DCSS, DH	I
<i>Bromus madritensis</i> L. ssp. <i>rubens</i> (L.) Husn.	red brome	NNG, DCSS, DCSS-D, DH, VNG	I
<i>Cortaderia jubata</i>	pampas grass	SMC	I
<i>Festuca [=Vulpia] myuros</i> L.	rattail sixweeks grass	NNG, DCSS, DH	I
<i>Gastridium ventricosum</i> (Gouan) Schinz & Thell.	nit grass	VNG, DH	I
<i>Schimus barbatus</i> (L.) Thell.	Mediterranean schismus	VNG, DCSS, DH	I
<i>Stipa cernua</i>	nodding needle grass	VNG, DCSS	N
<i>Stipa miliacea</i>	smilo grass	NNG, ORN	I
<i>Stipa pulchra</i>	purple needle grass	VNG	N
<b>ANGIOSPERMS: DICOTS</b>			
<b>AIZOACEAE</b>	<b>FIG-MARIGOLD FAMILY</b>		
<i>Delosperma</i> sp.	iceplant	ORN	I
<i>Mesembryanthemum nodiflorum</i> L.	slender-leaved iceplant	ORN	I
<b>ANACARDIACEAE</b>	<b>SUMAC OR CASHEW FAMILY</b>		
<i>Cupaniopsis anacardioides</i> (A. Rich) Radlk.	carrotwood	ORN	I
<i>Malosma laurina</i> Nutt. ex Abrams	laurel sumac	DCSS, SMC	N
<i>Rhus integrifolia</i> (Nutt.) Benth. & Hook. f. ex Rothr.	lemonadeberry	DCSS, SMC	N
<i>Schinus terebinthifolius</i> Raddi	Brazilian pepper tree	ORN	I

**Attachment 1**  
**Plant Species Observed on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Habitat	Origin
<b>APIACEAE (UMBELLIFERAE)</b>	<b>CARROT FAMILY</b>		
<i>Daucus pusilus</i>	rattlesnake weed	VNG, DCSS	N
<i>Foeniculum vulgare</i> Mill.	fennel	DH, NNG	I
<b>ASTERACEAE</b>	<b>SUNFLOWER FAMILY</b>		
<i>Artemisia californica</i> Less.	California sagebrush	DCSS, DCSS-D, VNG, NNG	N
<i>Baccharis pilularis</i> DC.	coyote brush	DCSS, VNG, NNG	N
<i>Baccharis salicifolia</i> (Ruiz & Pav.) Pers.	mule fat, seep-willow	DCSS	N
<i>Baccharis sarothroides</i> A. Gray	broom baccharis	DCSS, DCSS-D, VNG, NNG	N
<i>Bahiopsis</i> [=Viguiera] <i>laciniata</i> (A. Gray) E.E. Schilling & Panero	San Diego viguiera	DCSS, DCSS-D	N
<i>Carduus pycnocephalus</i>	Italian thistle	DH	I
<i>Centaurea melitensis</i> L.	totalote, Maltese star-thistle	DH, NNG	I
<i>Deinandra</i> [=Hemizonia] <i>fasciculata</i> (DC.) Greene	golden tarplant	VNG, DCSS, NNG	N
<i>Dittrichia graveolens</i>	stinkwort	NNG	I
<i>Encelia californica</i> Nutt.	common encelia	DCSS	N
<i>Glebionis coronaria</i> (L.) Spach [=Chrysanthemum coronarium]	garland, crown daisy	DH, DCSS	I
<i>Hedypnois cretica</i> (L.) Dum. Cours.	crete weed	NNG, DH	I
<i>Helminthotheca echioides</i>	bristly ox-tongue	NNG, DH	I
<i>Isocoma menziesii</i> (Hook. & Arn.) G.L. Nesom	coastal goldenbush	DCSS, DCSS-D	N
<i>Laennecia coulteri</i>	Coulter's horseweed	VNG, NNG	N
<i>Lactuca serriola</i> L.	prickly lettuce	DH, NNG	I
<i>Logfia gallica</i>	daggerleaf cottonrose	DCSS, VNG	I
<i>Osmadenia tenella</i>	osmadenia	DCSS, VNG	N
<i>Pseudognaphalium biolettii</i> Anderb. [=Gnaphalium bicolor]	bicolor cudweed	DCSS	N
<i>Pseudognaphalium californicum</i>	California everlasting, green everlasting	DCSS	N
<i>Sonchus asper</i> (L.) Hill ssp. <i>asper</i>	prickly sow thistle	DH	I
<b>BRASSICACEAE (CRUCIFERAE)</b>	<b>MUSTARD FAMILY</b>		
<i>Brassica nigra</i>	black mustard	DH	I
<i>Hirschfeldia incana</i> (L.) Lagr.-Fossat	short-pod mustard	DH, NNG, DCSS-D	I
<i>Raphanus sativus</i> L.	radish	DH, NNG	I
<i>Sisymbrium irio</i> L.	London rocket	DH, NNG	I

**Attachment 1**  
**Plant Species Observed on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Habitat	Origin
<b>CACTACEAE</b>	<b>CACTUS FAMILY</b>		
<i>Opuntia littoralis</i> (Engelm.) Cockerell.	coast prickly-pear, shore cactus	DCSS	N
<b>CAPRIFOLIACEAE</b>	<b>HONEYSUCKLE FAMILY</b>		
<i>Lonicera subspicata</i> Hook. & Arn.	southern honeysuckle	DCSS	N
<b>CARYOPHYLLACEAE</b>	<b>PINK FAMILY</b>		
<i>Silene gallica</i> L.	small-flower catchfly, windmill pink	NNG, DCSS, VNG	I
<b>CHENOPODIACEAE</b>	<b>GOOSEFOOT FAMILY</b>		
<i>Atriplex lentiformis</i>	big saltbush	DCSS-D	N
<i>Atriplex semibaccata</i> R. Br.	Australian saltbush	DCSS-D, NNG	I
<i>Chenopodium murale</i>	nettle-leaf goosefoot	DH, NNG	I
<i>Salsola tragus</i> L.	Russian thistle, tumbleweed	NNG, DCSS	I
<b>CLEOMACEAE</b>	<b>SPIDERFLOWER FAMILY</b>		
<i>Peritoma [=Isomeris] arborea</i> (Nutt.) H. H. Iltis	bladderpod	DCSS	N
<b>CONVOLVULACEAE</b>	<b>MORNING-GLORY FAMILY</b>		
<i>Calystegia macrostegia</i> (Greene) Brummitt	morning-glory	DCSS, VNG	N
<b>CRASSULACEAE</b>	<b>STONECROP FAMILY</b>		
<i>Crassula connata</i>	pygmy-weed	VNG	I
<b>CUCURBITACEAE</b>	<b>GOURD FAMILY</b>		
<i>Marah macrocarpa</i> (Greene) Greene	wild cucumber, chilicothe	DCSS	N
<b>EUPHORBIACEAE</b>	<b>SPURGE FAMILY</b>		
<i>Croton setiger</i>	turkey-mullein, dove weed	NNG, DCSS	N
<b>FABACEAE (LEGUMINOSAE)</b>	<b>LEGUME FAMILY</b>		
<i>Acacia cyclops</i> A. Cunn. ex G. Don	western coastal wattle	ORN	I
<i>Acacia redolens</i>	vanilla-scented wattle	ORN, DH	I
<i>Acmispon glaber</i> (Vogel) Brouillet [= <i>Lotus scoparius</i> ]	deerweed	DCSS, NNG, VNG	N
<i>Melilotus indica</i>	sweetclover	DCSS, NNG	I
<b>GERANIACEAE</b>	<b>GERANIUM FAMILY</b>		
<i>Erodium botrys</i>	long-beak filaree	DCSS, NNG, VNG	I
<b>LAMIACEAE</b>	<b>MINT FAMILY</b>		
<i>Marrubium vulgare</i> L.	horehound	DCSS	I
<i>Salvia mellifera</i> Greene	black sage	DCSS	N

**Attachment 1**  
**Plant Species Observed on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Habitat	Origin
<b>MALVACEAE</b>	<b>MALLOW FAMILY</b>		
<i>Malacothamnus fasciculatus</i> (Nutt. ex Torr. & A. Gray) Greene	chaparral mallow	DCSS	N
<i>Malva parviflora</i> L.	cheeseweed, little mallow	NNG	I
<b>MYRTACEAE</b>	<b>MYRTLE FAMILY</b>		
<i>Lophostemon confertus</i>	Brisbane box tree	ORN	I
<b>MYRSINACEAE</b>	<b>MYRSINE FAMILY</b>		
<i>Anagallis arvensis</i> L.	scarlet pimpernel, poor-man's weatherglass	VNG, DCSS	I
<b>PHRYMACEAE [=SCROPHULARIACEAE]</b>	<b>HOPSEED FAMILY</b>		
<i>Mimulus aurantiacus</i> Curtis	bush monkey-flower	DCSS	N
<b>PLANTAGINACEAE</b>	<b>PLANTAIN FAMILY</b>		
<i>Nuttallanthus texanus</i> (Scheele) D.A. Sutton [= <i>Linaria canadensis</i> ]	blue toadflax	VNG	N
<b>POLEMONIACEAE</b>	<b>PHLOX FAMILY</b>		
<i>Navarretia hamata</i> Greene	hooked navarretia	VNG	N
<b>POLYGONACEAE</b>	<b>BUCKWHEAT FAMILY</b>		
<i>Eriogonum fasciculatum</i> Benth. var. <i>fasciculatum</i>	coast California buckwheat	DCSS, DCSS-D, NNG	N
<i>Rumex crispus</i> L.	curly dock	NNG	I
<b>ROSACEAE</b>	<b>ROSE FAMILY</b>		
<i>Heteromeles arbutifolia</i> (Lindl.) M. Roem.	toyon, Christmas berry	DCSS, SMC	N
<b>SALICACEAE</b>	<b>WILLOW FAMILY</b>		
<i>Salix lasiolepis</i>	arroyo willow	SWS	N
<b>SOLANACEAE</b>	<b>NIGHTSHADE FAMILY</b>		
<i>Solanum americanum</i>	white nightshade	NNG	N
<b>URTICACEAE</b>	<b>NETTLE FAMILY</b>		
<i>Urtica urens</i> L.	dwarf nettle	NNG	I

**Attachment 1**  
**Plant Species Observed on the North University City Fire Station 50 Project Site**

Notes: Scientific and common names were primarily derived from the Jepson Online Interchange (University of California 2013). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2006). Additional common names were obtained from the USDA maintained database (USDA 2013) or the Sunset Western Garden Book (Brenzel 2001) for ornamental/horticultural plants. Common names denoted with \* are from County of San Diego 2010.

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San Diego, County of. 2010. Guidelines for Determining Significance and Report Format and Content Requirements. Biological Resources. Land Use and Environmental Group. Department of Planning and Land Use. Department of Public Works. Fourth Revision. September 15.

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**HABITATS**

DCSS = Diegan coastal sage scrub  
 DCSS-D = Diegan coastal sage scrub, disturbed  
 DH = Disturbed land  
 NNG = Non-native grassland  
 VNG = Valley needlegrass grassland  
 ORN = Ornamental plantings  
 SMC = Southern mixed chaparral  
 SWS = Southern willow scrub

**ORIGIN**

N = Native to locality  
 I = Introduced species from outside locality

## **ATTACHMENT 2**

### **Wildlife Species Observed/Detected on the North University City Fire Station Project Site**

**Attachment 2**  
**Wildlife Species Observed/Detected on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Occupied Habitat	On-site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
<b>INVERTEBRATES</b> (Nomenclature from Milne and Milne 1980; Mattoni 1990; and Opler and Wright 1999)				
<b>AGELENIDAE</b>	<b>FUNNEL WEAVERS</b>			
<i>Agelenidae</i> sp.	Grass spider	DCSS, DH, VNG		O
<b>CTENIZIDAE</b>	<b>TRAPDOOR SPIDERS</b>			
<i>Aphonopelma chalcodes</i>	California trapdoor spider	DCSS, VNG		B
<b>APIDAE</b>	<b>BEEES</b>			
<i>Apis mellifera</i>	honeybee (I)	DCSS, VNG, DH		O
<b>HESPERIIDAE</b>	<b>SKIPPERS</b>			
<i>Pyrgus communis</i>	common checkered skipper	VNG		O
<b>FORMICIDAE</b>	<b>ANTS</b>			
<i>Linepithema humile</i>	Argentine ant	DCSS, DCSS-D, UDL		O
<b>PIERIDAE</b>	<b>WHITES &amp; SULPHURS</b>			
<i>Pieris rapae</i>	cabbage white	DH		O
<b>LYCAENIDAE</b>	<b>BLUES, COPPERS, &amp; HAIRSTREAKS</b>			
<i>Brephidium exile</i>	western pygmy blue	DCSS		O
<i>Icaricia acmon acmon</i>	Acmon blue	DCSS, DCSS-D		O
<i>Euphilotes bernardino</i>	Bernardino dotted-blue	DCSS		O
<b>RIODINIDAE</b>	<b>METALMARKS</b>			
<i>Apodemia virgulti</i>	Behr's metalmark	DCSS		O
<b>TENEBRIONIDAE</b>	<b>BARK, DARKLING AND BLISTER BEETLES</b>			
<i>Eleodes</i> sp.	stink beetle	DH, VNG		O
<b>REPTILES</b> (Nomenclature from Crother 2008)				
<b>PHRYNOSOMATIDAE</b>	<b>SPINY LIZARDS</b>			
<i>Sceloporus occidentalis</i>	western fence lizard	DCSS		O
<i>Uta stansburiana</i>	common side-blotched lizard	DCSS		O
<b>TEIIDAE</b>	<b>WHIPTAIL LIZARDS</b>			
<i>Aspidoscelis hyperythra beldingi</i>	Belding's orange-throated whiptail	DCSS, VNG		O

**Attachment 2**  
**Wildlife Species Observed/Detected on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Occupied Habitat	On-site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
<b>CROTALIDAE</b>	<b>RATTLESNAKES</b>			
<i>Crotalus</i> sp.	rattlesnake	DCSS		O
<b>BIRDS</b> (Nomenclature from American Ornithologists' Union 1998 and Unitt 2004)				
<b>ANATIDAE</b>	<b>DUCKS, GEESE, &amp; SWANS</b>			
<i>Anas platyrhynchos platyrhynchos</i>	mallard	FO	C / Y	O, V
<b>ACCIPITRIDAE</b>	<b>HAWKS, KITES, &amp; EAGLES</b>			
<i>Buteo jamaicensis</i>	red-tailed hawk	FO, UDL	F / Y	O
<b>COLUMBIDAE</b>	<b>PIGEONS &amp; DOVES</b>			
<i>Columba livia</i>	rock dove (I)	UDL	C / Y	O
<i>Zenaida macroura marginella</i>	mourning dove	UDL, DCSS, FO	C / Y	O, V
<b>TROCHILIDAE</b>	<b>HUMMINGBIRDS</b>			
<i>Calypte anna</i>	Anna's hummingbird	UDL, DCSS	C / Y	O, V
<b>TYRANNIDAE</b>	<b>TYRANT FLYCATCHERS</b>			
<i>Empidonax difficilis</i>	Pacific slope flycatcher	DCSS	F / S	O, V
<i>Myiarchus cinerascens cinerascens</i>	ash-throated flycatcher	DCSS	F / S	V
<i>Sayornis nigricans semiatra</i>	black phoebe	UDL	C / Y	O, V
<i>Sayornis saya</i>	Say's phoebe	DCSS, UDL	F / W	O
<i>Tyrannus vociferans vociferans</i>	Cassin's kingbird	UDL	C / Y	O, V
<b>CORVIDAE</b>	<b>CROWS, JAYS, &amp; MAGPIES</b>			
<i>Aphelocoma californica</i>	western scrub-jay	DCSS, FO	C / Y	O, V
<i>Corvus brachyrhynchos hesperis</i>	American crow	UDL	C / Y	O, V
<i>Corvus corax clarionensis</i>	common raven	FO	C / Y	O, V
<b>HIRUNDINIDAE</b>	<b>SWALLOWS</b>			
<i>Petrochelidon pyrrhonota tachina</i>	cliff swallow	UDL, FO	F / S	O, V
<b>AEGITHALIDAE</b>	<b>BUSHTIT</b>			
<i>Psaltriparus minimus minimus</i>	bushtit	DCSS, DCSS-D UDL	C / Y	O, V
<b>TROGLODYTIDAE</b>	<b>WRENS</b>			
<i>Troglodytes aedon parkmanii</i>	house wren	DCSS, DCSS-D	C / Y	O, V

**Attachment 2**  
**Wildlife Species Observed/Detected on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Occupied Habitat	On-site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
<b>TURDIDAE</b>	<b>THRUSHES</b>			
<i>Sialia mexicana occidentalis</i>	western bluebird	*UDL	U / W	O
<b>TIMALIIDAE</b>	<b>BABLERS</b>			
<i>Chamaea fasciata henshawi</i>	wrentit	DCSS, UDL	C / Y	O, V
<b>MIMIDAE</b>	<b>MOCKINGBIRDS &amp; THRASHERS</b>			
<i>Mimus polyglottos polyglottos</i>	northern mockingbird	UDL, DCSS	C / Y	O, V
<i>Toxostoma redivivum redivivum</i>	California thrasher	DCSS	F / Y	O, V
<b>STURNIDAE</b>	<b>STARLINGS &amp; MYNAS</b>			
<i>Sturnus vulgaris</i>	European starling (I)	UDL	C / Y	O, V
<b>PARULIDAE</b>	<b>WOOD WARBLERS</b>			
<i>Vermivora celata</i>	orange-crowned warbler	UDL	C / Y	O, V
<b>EMBERIZIDAE</b>	<b>EMBERIZIDS</b>			
<i>Melospiza melodia</i>	song sparrow	DCSS, UDL	C / Y	V
<i>Pipilo crissalis</i>	California towhee	DCSS, UDL, VNG	C / Y	O, V
<i>Pipilo maculatus</i>	spotted towhee	DCSS, UDL	C / Y	O, V
<b>ICTERIDAE</b>	<b>BLACKBIRDS &amp; NEW WORLD ORIOLES</b>			
<i>Icterus cucullatus nelsoni</i>	hooded oriole	UDL, DCSS	C / S	O, V
<b>FRINGILLIDAE</b>	<b>FINCHES</b>			
<i>Carduelis psaltria hesperophilus</i>	lesser goldfinch	DCSS, UDL	C / Y	O, V
<i>Carpodacus mexicanus frontalis</i>	house finch	UDL	C / Y	O, V
<b>MAMMALS</b> (Nomenclature from Baker et al. 2003)				
<b>LEPORIDAE</b>	<b>RABBITS &amp; HARES</b>			
<i>Sylvilagus audubonii</i>	desert cottontail	UDL, DCSS		O
<b>SCIURIDAE</b>	<b>SQUIRRELS &amp; CHIPMUNKS</b>			
<i>Spermophilus beecheyi</i>	California ground squirrel	UDL, DCSS		O, V
<b>GEOMYIDAE</b>	<b>POCKET GOPHERS</b>			
<i>Thomomys bottae</i>	Botta's pocket gopher	DH, DCSS		B
<b>MURIDAE</b>	<b>OLD WORLD MICE &amp; RATS</b>			
<i>Neotoma</i> sp.	woodrat	DCSS*		D

**Attachment 2**  
**Wildlife Species Observed/Detected on the North University City Fire Station 50 Project Site**

Scientific Name	Common Name	Occupied Habitat	On-site Abundance/ Seasonality (Birds Only)	Evidence of Occurrence
<b>CANIDAE</b>	<b>CANIDS</b>			
<i>Canis latrans</i>	coyote	DCSS		T, S
<b>MEPHITIDAE</b>	<b>SKUNKS</b>			
<i>Mephitis mephitis</i>	striped skunk	DCSS		T

(I) = Introduced species

\* = Observed off-site (more than 100 feet from project site)

**HABITATS**

DCSS = Diegan Coastal Sage Scrub  
 DH = Disturbed Habitat  
 FO = Flying overhead  
  
 NNG = Non-native Grassland  
 SWS = Southern Willow Scrub  
 UDL = Urban/Developed (Landscaped)  
 VNG = Valley Needlegrass Grassland

**ABUNDANCE** (based on Garrett and Dunn 1981)

C = Common to abundant; almost always encountered in proper habitat, usually in moderate to large numbers  
 F = Fairly common; usually encountered in proper habitat, generally not in large numbers  
 U = Uncommon; occurs in small numbers or only locally

**EVIDENCE OF OCCURRENCE**

B = Burrow  
 D = Den site  
 O = Observed  
 S = Scat  
 T = Track  
 V = Vocalization

**SEASONALITY** (birds only)

S = Spring/summer resident; probable breeder on-site or in vicinity  
 W = Winter visitor; does not breed locally  
 Y = Year-round resident; probable breeder on-site or in vicinity

## **ATTACHMENT 3**

### **Sensitive Plant Species Observed or with Potential for Occurrence on the North University City Fire Station Project Site**

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

Species	State/Federal Status	CRPR Rank	City of San Diego	Habitat/Blooming Period	Comments
<b>LYCOPODS</b>					
<b>SELAGINELLACEAE SPIKE-MOSS FAMILY</b>					
<i>Selaginella cinerascens</i> ashy spike-moss	--	4.1	-	Perennial rhizomatous herb; chaparral, coastal scrub; elevation 65–2,100 feet.	<b>Observed</b> a population of approximately 50 individuals in the southwest portion of the project site within non-native grassland.
<b>ANGIOSPERMS: DICOTS</b>					
<b>APIACEAE CARROT FAMILY</b>					
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button-celery	CE/FE	1B.1	NE, MSCP	Biennial/perennial herb; vernal pools, mesic areas of coastal sage scrub and grasslands, blooms April–June; elevation less than 2,000 feet. Known from San Diego and Riverside counties. Additional populations occur in Baja California, Mexico.	No potential to occur in the project site. No suitable vernal pool habitat present. Not observed during rare plant surveys, which were conducted during this species blooming period. .
<b>ASTERACEAE SUNFLOWER FAMILY</b>					
<i>Ambrosia pumila</i> San Diego ambrosia	-/FE	1B.1	NE, MSCP	Perennial herb (rhizomatous); chaparral, coastal sage scrub, valley and foothill grasslands, creek beds, vernal pools, often in disturbed areas; blooms May–September; elevation less than 1,400 feet. Many occurrences extirpated in San Diego County.	No potential to occur in the project site. This is a conspicuous perennial and would have been detected during rare plant surveys if present. No occurrences recorded within 10 miles of project area (State of California 2015e).
<i>Artemisia palmeri</i> San Diego sagewort	--	4.2	-	Perennial deciduous shrub; coastal sage scrub, chaparral, riparian, mesic, sandy areas; blooms May–September; elevation less than 3,000 feet.	Not expected to occur in the project site. This is a conspicuous perennial and would have been detected during rare plant surveys if present. No suitable mesic or riparian areas present within the project site.

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

Species	State/Federal Status	CRPR Rank	City of San Diego	Habitat/Blooming Period	Comments
<i>Baccharis vanessae</i> Encinitas baccharis [=Encinitas coyote brush]	CE/FT	1B.1	NE, MSCP	Perennial deciduous shrub; chaparral; maritime; sandstone; blooms August–November; elevation less than 2,500 feet. San Diego County endemic. Known from fewer than 20 occurrences. Extirpated from Encinitas area.	Not expected to occur in the project site, which lies outside the range of this species.
<i>Bahiopsis</i> [=Viguiera] <i>laciniata</i> San Diego viguiera [=San Diego County viguiera]	–/–	4.2	–	Perennial shrub; chaparral, coastal sage scrub; blooms February–June; elevation less than 2,500 feet.	Nine 9 individuals were <b>observed</b> near the eastern edge of the survey area; however, none were observed within the project site.
<i>Deinandra</i> [=Hemizonia] <i>conjugens</i> Otay tarplant	CE/FT	1B.1	NE, MSCP	Annual; blooms May–June, elevation less than 1,000 feet.	No potential to occur in the project site. Project site lies outside this species' range.
<i>Isocoma menziesii</i> var. <i>decumbens</i> decumbent goldenbush	–/–	1B.2	–	Perennial shrub; chaparral, coastal sage scrub; sandy soils, often in disturbed areas; blooms April–November; elevation less than 500 feet.	Not expected to occur. This is a moderately-sized perennial and would likely have been detected during rare plant surveys if present.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i> small-flowered microseris	–/–	4.2	–	Annual herb; Clay lenses on perennial grasslands, vernal pools, openings in coastal sage scrub; blooms March–May; elevation 50–3,500 feet.	Low potential to occur. This species was not observed during rare plant surveys, which were conducted at appropriate time of the season. Grassland habitat on-site is patchy and interspersed with disturbed areas. No vernal pools present.

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

Species	State/Federal Status	CRPR Rank	City of San Diego	Habitat/Blooming Period	Comments
<i>Pentachaeta aurea</i> ssp. <i>aurea</i> golden-ray pentachaeta	–/–	4.2	–	Annual herb; cismontane woodland, coastal sage scrub, lower montane coniferous forest, perennial grasslands; blooms March–July; elevation 260–6,100 feet.	Low potential to occur. This species was not observed during rare plant surveys, which were conducted at appropriate time of the season. Coastal sage scrub and grasslands on-site are patchy and interspersed with disturbed areas, making them only marginal quality for this species.
<b>BORAGINACEAE      BORAGE FAMILY</b>					
<i>Harpagonella palmeri</i> Palmer’s grappplinghook	–/–	4.2	–	Annual herb; chaparral, coastal sage scrub, valley and foothill grasslands; clay soils; blooms March–May; elevation less than 3,200 feet. Inconspicuous and easily overlooked.	Low potential to occur. This species was not observed during rare plant surveys, which were conducted at appropriate time of the season.
<b>BRASSICACEAE      MUSTARD FAMILY</b>					
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson’s peppergrass	–/–	4.3	–	Annual herb; coastal sage scrub, chaparral; blooms January–July; elevation less than 2,900 feet.	Low potential to occur. This species was not observed during rare plant surveys, which were conducted at appropriate time of the season.
<b>CACTACEAE      CACTUS FAMILY</b>					
<i>Cylindropuntia californica</i> var. <i>californica</i> [= <i>Opuntia parryi</i> var. <i>serpentina</i> ] snake cholla	–/–	1B.1	NE, MSCP	Perennial stem succulent; chaparral, coastal sage scrub; blooms April–May; elevation 100–500 feet.	Not expected to occur. This is a conspicuous perennial and would likely have been detected during rare plant surveys if present.
<i>Ferocactus viridescens</i> San Diego barrel cactus	–/–	2B.1	MSCP	Perennial stem succulent; chaparral, coastal sage scrub, valley and foothill grasslands, vernal pools; blooms May–June; elevation less than 1,500 feet.	Not expected to occur. This is a conspicuous perennial and would likely have been detected during rare plant surveys if present.

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

Species	State/Federal Status	CRPR Rank	City of San Diego	Habitat/Blooming Period	Comments
<b>CHENOPODIACEAE      GOOSEFOOT FAMILY</b>					
<i>Aphanisma blitoides</i> aphanisma	--	1B.2	NE, MSCP	Annual herb; coastal bluff scrub, coastal sage scrub; sandy soils; blooms March–June; elevation less than 1,000 feet.	Not expected to occur. Project site lies outside this species' range. Appropriate sandy soil not present.
<b>CRASSULACEAE      STONECROP FAMILY</b>					
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	--	1B.1	–	Perennial herb; coastal sage scrub, coastal bluff scrub, chaparral, grasslands; blooms April–June; elevation less than 1,500 feet.	Not expected to occur. Project site does not support coastal bluff scrub, and is subject to frequent human disturbance, reducing its quality for this species..
<i>Dudleya variegata</i> variegated dudleya	--	1B.2	NE, MSCP	Perennial herb; openings in chaparral, coastal sage scrub, grasslands, vernal pools; blooms May–June; elevation less than 1,900 feet.	Low potential to occur. This species was not observed during rare plant surveys, which were conducted at appropriate time of the season.
<b>ERICACEAE      HEATH FAMILY</b>					
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> summer holly	--	1B.2	–	Perennial evergreen shrub; chaparral; blooms April–June; elevation 100–2,600 feet.	Not expected to occur. This is a very conspicuous perennial and would have been detected during rare plant surveys if present.
<b>FABACEAE      LEGUME FAMILY</b>					
<i>Astragalus tener</i> var. <i>titi</i> coastal dunes milkvetch	CE/FE	1B.1	NE, MSCP	Annual herb; coastal bluff scrub, coastal dunes, sandy soils, mesic coastal prairie; blooms March–May; elevation less than 200 feet. California endemic. Known from fewer than 10 occurrences in San Diego (presumed extirpated), Los Angeles (presumed extirpated), and Monterey counties.	Not expected to occur. No suitable sandy coastal scrub or dune habitat occurs on the project site.

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

Species	State/Federal Status	CRPR Rank	City of San Diego	Habitat/Blooming Period	Comments
<b>FAGACEAE OAK FAMILY</b>					
<i>Quercus dumosa</i> Nuttall's scrub oak	--	1B.1	-	Perennial evergreen shrub; closed-cone coniferous forest, coastal chaparral, coastal sage scrub; sandy and clay loam soils; blooms February–March; elevation less than 1,300 feet.	Not expected to occur. This is a conspicuous perennial and would likely have been detected during rare plant surveys if present.
<b>LAMIACEAE MINT FAMILY</b>					
<i>Acanthomintha ilicifolia</i> San Diego thornmint	CE/FT	1B.1	NE, MSCP	Annual herb; chaparral, coastal sage scrub, and grasslands; friable or broken clay soils; blooms April–June; elevation less than 3,200 feet.	Low potential to occur. This species was not observed during rare plant surveys, which were conducted at the appropriate time of the season. Suitable cracked clay soils not present on-site.
<i>Pogogyne abramsii</i> San Diego mesa mint	CE/FE	1B.1	NE, MSCP	Annual herb; vernal pools; blooms April–July; elevation 300–700 feet. San Diego County endemic.	Not expected to occur. Although vernal pools are present in the project vicinity, none occur on the project site.
<i>Pogogyne nudiuscula</i> Otay mesa mint	CE/FE	1B.1	NE, MSCP	Annual herb; vernal pools; blooms May–July; elevation 300–820 feet. In California, known from approximately 10 occurrences in Otay Mesa in San Diego County. Additional populations occur in Baja California, Mexico.	Not expected to occur. Although vernal pools are present in the project vicinity, none occur on the project site. The project site lies outside this species' range.
<b>MONTIACEAE MONTIA FAMILY</b>					
<i>Calandrinia breweri</i> Brewer's calandrinia	--	4.2	-	Annual herb; chaparral and coastal sage scrub; sandy or loamy soils, disturbed sites and burns; blooms March–June; elevation less than 4,000 feet.	Low potential to occur. No suitable open sandy soils present within the project site.

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

Species	State/Federal Status	CRPR Rank	City of San Diego	Habitat/Blooming Period	Comments
<b>OROBANCHACEAE      BROOM-RAPE FAMILY</b>					
<i>Dicranostegia orcuttiana</i> [= <i>Cordylanthus orcuttianus</i> ] Orcutt's bird's-beak	--	2B.1	MSCP	Annual herb (hemiparasitic); coastal sage scrub; blooms March–September; elevation less than 1,200 feet.	Not expected to occur. No occurrences recorded within 20 miles of project site. This species was not observed during rare plant surveys, which were conducted at the appropriate time of the season.
<b>POLEMONIACEAE      PHLOX FAMILY</b>					
<i>Navarretia fossalis</i> spreading navarretia [=prostrate navarretia]	-/FT	1B.1	NE, MSCP	Annual herb; vernal pools, marshes and swamps, chenopod scrub; blooms April–June; elevation 100–4,300 feet.	Not expected to occur. Critical habitat for this species is present to the east of the project site, but no vernal pools are present on the project site. This species was not detected during rare plant surveys, which were conducted during this species' blooming period.
<b>RHAMNACEAE      BUCKTHORN FAMILY</b>					
<i>Ceanothus verrucosus</i> wart-stemmed ceanothus	--	2B.2	MSCP	Perennial evergreen shrub; chaparral; blooms December–April; elevation less than 1,300 feet.	Not expected to occur. This is a large, conspicuous shrub that would have been detected if present on-site. This species is generally associated with southern maritime chaparral, which does not occur on the site.
<b>ANGIOSPERMS: MONOCOTS</b>					
<b>AGAVACEAE      AGAVE FAMILY</b>					
<i>Agave shawii</i> var. <i>shawii</i> Shaw's agave	--	2B.1	NE, MSCP	Perennial leaf succulent; coastal bluff scrub, coastal sage scrub, maritime succulent scrub; blooms September–May; elevation less than 400 feet.	Not expected to occur. Project site does not support suitable habitat. This is a conspicuous plant that would likely have been detected if present.

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

Species	State/Federal Status	CRPR Rank	City of San Diego	Habitat/Blooming Period	Comments
<b>ORCHIDACEAE ORCHID FAMILY</b>					
<i>Piperia cooperi</i> chaparral rein-orchid	--	4.2	-	Perennial herb; chaparral, cismontane woodland, perennial grassland; blooms March–June; elevation less than 5,200 feet.	Low potential to occur. Although valley needlegrass grassland, a perennial grassland, does occur on-site, this area was inspected thoroughly during rare plant surveys, which were conducted at the appropriate time of the season for this species.
<b>POACEAE GRASS FAMILY</b>					
<i>Orcuttia californica</i> California Orcutt grass	CE/FE	1B.1	NE, MSCP	Annual herb; vernal pools; blooms April–August; elevation 50–2,200 feet.	Not expected to occur. Although vernal pools are present in the vicinity, none occur on the project site. Suitable habitat is not present.
<b>THEMIDACEAE BRODIAEA FAMILY</b>					
<i>Bloomeria</i> [=Muilla] <i>clevelandii</i> San Diego goldenstar	--	1B.1	MSCP	Perennial herb (bulbiferous); chaparral, coastal sage scrub, valley and foothill grassland, vernal pools; clay soils; blooms May; elevation 170–1,500 feet.	Low potential to occur. This annual plant species is conspicuous and would have been detected within the native and non-native grasslands if present..
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	--	1B.1	MSCP	Perennial herb (bulbiferous); closed cone coniferous forest, chaparral, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay soil; blooms May–July; elevation less than 5,600 feet.	Low potential to occur. The grassland habitat on-site is largely too disturbed for this species. Additionally, this species was not detected during rare plant surveys, which were conducted during this species' blooming period,
<b>FEDERAL CANDIDATES AND LISTED PLANTS</b>			<b>STATE LISTED PLANTS</b>		
FE	= Federally listed endangered		CE	= State listed endangered	
FT	= Federally listed threatened		CR	= State listed rare	
FC	= Federal candidate for listing as endangered or threatened		CT	= State listed threatened	

**Attachment 3**  
**Sensitive Plant Species Observed or with the Potential for Occurrence on the**  
**North University City Fire Station 50 Project Site**

**CALIFORNIA NATIVE PLANT SOCIETY RARE PLANT RANKING**

- 1A = Species presumed extinct.
- 1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
- 2A = Plants presumed extirpated in California, but more common elsewhere.
- 2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
- 3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
- 4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
- .1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
- .2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).
- .3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).
- CBR = Considered but rejected

**CITY OF SAN DIEGO**

- NE = Narrow endemic
- MSCP = Multiple Species Conservation Program covered species

**REFERENCES**

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## **ATTACHMENT 4**

### **Sensitive Wildlife Species Occurring or with the Potential to Occur on the North University City Fire Station Project Site**

**Attachment 4**  
**Sensitive Wildlife Species Occurring or with the Potential to Occur**  
**on the North University City Fire Station 50 Project Site**

Species	Status	Habitat	Occurrence/Comments
<b>INVERTEBRATES</b> (Nomenclature from Eriksen and Belk 1999)			
<b>ANOSTRACA</b>	<b>FAIRY SHRIMP</b>		
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	FE, MSCP, *	Vernal pools.	This species is not expected to occur within the project site due to a lack of vernal pools.
<b>AMPHIBIANS</b> (Nomenclature from Crother 2001 and Crother et al. 2003)			
<b>PELOBATIDAE</b>	<b>SPADEFoot TOADS</b>		
Western spadefoot <i>Spea hammondi</i>	CSC	Vernal pools, floodplains, and alkali flats within areas of open vegetation.	This species has low potential to occur on the project site. No suitable vernal pools or other wet ponded areas occur on site. Coastal sage scrub on site is only marginally suitable as upland, non-breeding habitat for this species, but it is small, patchy, and interspersed with disturbed areas.
<b>REPTILES</b> (Nomenclature from Crother 2008)			
<b>IGUANIDAE</b>	<b>IGUANID LIZARDS</b>		
Coast horned lizard <i>Phrynosoma coronatum</i> (San Diego/ <i>blainvillii</i> pop.)	CSC, MSCP, *	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	This species has moderate potential to occur within the Diegan coastal sage scrub and adjacent areas within the project site due to the presence of moderately suitable habitat.
<b>SCINCIDAE</b>	<b>SKINKS</b>		
Coronado skink <i>Eumeces skiltonianus interparietalis</i>	CSC	Grasslands, open woodlands and forest, broken chaparral. Rocky habitats near streams.	This species has low potential to occur on site. This species may occur along Rose Creek 750 feet to the south, but, while there is an ephemeral drainage off site to the east, no suitably wet areas occur on site. The habitat on site is patchy, interspersed with disturbed areas, and subject to frequent human disturbance.

**Attachment 4**  
**Sensitive Wildlife Species Occurring or with the Potential to Occur**  
**on the North University City Fire Station 50 Project Site**

Species	Status	Habitat	Occurrence/Comments
<b>TEIIDAE</b> <b>WHIPTAIL LIZARDS</b>			
Belding's orange-throated whiptail <i>Aspidoscelis hyperythra beldingi</i>	CSC, MSCP	Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.	<b>Observed</b> within the coastal sage scrub and non-native grassland within the survey area, just outside the project site. Habitat within project site substantially similar, so this species is expected to occur in project site.
<b>ANNIELLIDAE</b> <b>LEGLESS LIZARDS</b>			
Silvery legless lizard <i>Anniella pulchra pulchra</i>	CSC	Herbaceous layers with loose soil in coastal scrub, chaparral, and open riparian. Prefers dunes and sandy washes near moist soil.	This species has a low potential to occur within the project site due to the lack of loose or sandy soil.
<b>COLUBRIDAE</b> <b>COLUBRID SNAKES</b>			
Coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	CSC	Grasslands, chaparral, sagebrush, desert scrub. Found in sandy and rocky areas.	This species is unlikely to occur within the project due to the lack of suitable sandy soils within the coastal sage scrub or grassland habitats.
<b>CROTALIDAE</b> <b>RATTLESNAKES</b>			
Red diamond rattlesnake <i>Crotalus ruber</i>	CSC	Desert scrub and riparian, coastal sage scrub, open chaparral, grassland, and agricultural fields.	There is moderate potential for this species to occur within the survey area due to the presence of suitable coastal sage scrub habitat. An unidentified rattlesnake was observed within coastal sage scrub just outside the survey area during protocol gnatcatcher surveys..

**Attachment 4**  
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Species	Status	Habitat	Occurrence/Comments
<b>BIRDS</b> (Nomenclature from American Ornithologists' Union 2015 and Unitt 2004)			
<b>ACCIPITRIDAE</b>	<b>HAWKS, KITES, &amp; EAGLES</b>		
Cooper's hawk (nesting) <i>Accipiter cooperii</i>	CSC, MSCP	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas. Migrant and winter visitor.	There is no potential for this species to nest on site due to lack of trees. Cooper's hawks have moderate potential to nest in landscaping trees associated with the athletic fields 200 feet north of the project site and high potential to nest in larger trees associated with Rose Creek approximately 750 feet south of the project site. There is high potential for this species to forage on site.
Northern harrier (nesting) <i>Circus cyaneus hudsonius</i>	CSC, MSCP	Coastal lowland, marshes, grassland, agricultural fields. Migrant and winter resident, rare summer resident.	This species has low potential to occur within the grassland habitat on the project site. Typically, this species requires large areas of grassland for foraging; however the site supports only small scattered patches of grassland interspersed with disturbed areas.
White-tailed kite (nesting) <i>Elanus leucurus</i>	CFP, *	Nest in riparian woodland, oaks, sycamores. Forage in open, grassy areas. Year-round resident.	Although this species has a no potential to nest in the project site due to the lack of riparian woodland, oaks, or sycamores. There is high potential for this species to nest in the larger riparian trees associated with Rose Creek, which lies 750 feet to the south. The grasslands on site are marginal quality foraging habitat for this species due to their small size and patchiness.

**Attachment 4**  
**Sensitive Wildlife Species Occurring or with the Potential to Occur**  
**on the North University City Fire Station 50 Project Site**

Species	Status	Habitat	Occurrence/Comments
<b>VIREONIDAE</b> <b>VIREOS</b>			
Least Bell's vireo (nesting) <i>Vireo bellii pusillus</i>	FE, SE, MSCP	Willow riparian woodlands. Summer resident.	Not expected to occur within the project site due to a lack of willow riparian woodland. A patch of shrubby willows occurs southeast of the survey area, along the edge of the apartment complex, but this is a very small patch and is isolated from other riparian habitat in the region so it would provide little utility for this species.
<b>ALAUDIDAE</b> <b>LARKS</b>			
California horned lark <i>Eremophila alpestris actia</i>	CSC	Sandy shores, mesas, disturbed areas, grasslands, agricultural lands, sparse creosote bush scrub.	There is low potential for this species to nest within the valley needlegrass grassland and non-native grasslands within the project site, as these grasslands are relatively small patchy.
<b>SYLVIIDAE</b> <b>GNATCATCHERS</b>			
Coastal California gnatcatcher <i>Polioptila californica californica</i>	FT, CSC, MSCP	Coastal sage scrub, maritime succulent scrub. Resident.	This species has moderate potential to occur within the project site. No coastal California gnatcatchers were observed during protocol surveys; however, suitable habitat occurs within the project site. Additionally, a larger area of good quality coastal sage scrub occurs off site to the east, and any coastal California gnatcatcher in that area could use the habitat on site to augment its territory

**Attachment 4**  
**Sensitive Wildlife Species Occurring or with the Potential to Occur**  
**on the North University City Fire Station 50 Project Site**

Species	Status	Habitat	Occurrence/Comments
<b>TURDIDAE</b> <b>THRUSHES</b>			
Western bluebird <i>Sialia mexicana occidentalis</i>	MSCP	Open woodlands, farmlands, orchards.	One individual <b>Observed</b> in landscaping trees north of Nobel Drive during focused coastal California gnatcatcher surveys (RECON 2015). This species has no potential to nest in the project site, but would be most likely to nest in the larger trees along Rose Canyon, which is approximately 750 feet south of the site, south of the Lucera apartment complex.
<b>PARULIDAE</b> <b>WOOD WARBLERS</b>			
Yellow warbler (nesting) <i>Dendroica petechia</i>	CSC	Breeding restricted to riparian woodland. Spring and fall migrant, localized summer resident, rare winter visitor.	Not expected to occur within the project site due to a lack of willow riparian woodland. The patch of southern willow scrub located to the southeast of the survey area is too small and isolated to provide any value to this species.
Yellow-breasted chat (nesting) <i>Icteria virens auricollis</i>	CSC	Dense riparian woodland. Localized summer resident.	Not expected to occur within the project site due to a lack of willow riparian woodland. The patch of southern willow scrub located to the southeast of the project site is too small and isolated to provide much value to this species..
<b>EMBERIZIDAE</b> <b>EMBERIZIDS</b>			
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	CSC, MSCP	Coastal sage scrub, chaparral, grassland. Resident.	Although this species was not detected during directed surveys, suitable habitat is present. Therefore, there is moderate potential for this species to occur within the project site. Additionally, there is a larger area of higher quality coastal sage scrub habitat off site to the east, and any individuals nesting in that area would likely augment their territories with the habitat on site.

**Attachment 4**  
**Sensitive Wildlife Species Occurring or with the Potential to Occur**  
**on the North University City Fire Station 50 Project Site**

Species	Status	Habitat	Occurrence/Comments
Grasshopper sparrow (nesting) <i>Ammodramus savannarum perpallidus</i>	CSC	Tall grass areas. Localized summer resident, rare in winter.	This species has low potential to occur in the project site. Although there are several patches of native and non-native grassland present, there are no substantial large swathes of grassland suitable to support this species.
<b>MAMMALS (Nomenclature from Baker et al. 2003)</b>			
<b>VESPERTILIONIDAE</b> <b>VESPER BATS</b>			
Pallid bat <i>Antrozous pallidus</i>	CSC	Arid deserts and grasslands. Shallow caves, crevices, rock outcrops, buildings, tree cavities. Especially near water. Colonial. Audible echolocation signal.	There is no potential for this species to roost and moderate potential for this species to forage within the project site. No suitable roosting habitat (caves, mines, and tree cavities) occur within the project site. The bat feeds on large insect prey, for which it can forage in riparian areas or a variety of upland habitats. Potentially suitable foraging habitat and insect prey are expected to be present throughout the project site.
<b>MOLOSSIDAE</b> <b>FREE-TAILED BATS</b>			
Western mastiff bat <i>Eumops perotis californicus</i>	CSC	Occurs in desert scrub, chaparral, oak woodland, ponderosa pine and mixed conifer forests, and meadows. Strongly tied to areas with cliffs and other significant rock features for roosting (Western Bat Working Group 2015)	There is no potential for this species to roost on site due to the lack of suitable cliffs or areas of large rock outcrops. Although this species may fly large distances for prey, ideal foraging habitat is present along Rose Creek, which lies off site to the south. Thus there is low potential for foraging on site.

**Attachment 4**  
**Sensitive Wildlife Species Occurring or with the Potential to Occur**  
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Species	Status	Habitat	Occurrence/Comments
<b>LEPORIDAE</b> <b>RABBITS &amp; HARES</b>			
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	CSC	Open areas of scrub, grasslands, and agricultural fields.	There is moderate potential for this species to occur within the coastal sage scrub and grasslands on site. Although this species was not detected, it provides moderate quality habitat and has connectivity with larger areas of undeveloped habitat associated with the Rose Canyon Open Space.
<b>HETEROMYIDAE</b> <b>POCKET MICE &amp; KANGAROO</b> <b>RATS</b>			
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	CSC	San Diego County west of mountains in sparse, disturbed coastal sage scrub or grasslands with sandy soils.	There is low potential for this species to occur. Portions of the coastal sage scrub and grassland within the survey area provides marginally suitable habitat for the species.
<b>MURIDAE</b> <b>OLD WORLD MICE &amp; RATS (I)</b>			
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	CSC	Coastal sage scrub and chaparral.	There is moderate potential for this species to forage within the project site due to the presence of suitable coastal sage scrub habitat. Although a woodrat midden was observed outside the survey area, it occurred in coastal sage scrub that is more dense and mature than that found within the project impact area. This species is not expected to nest within the project site.

**Attachment 4**  
**Sensitive Wildlife Species Occurring or with the Potential to Occur**  
**on the North University City Fire Station 50 Project Site**

Species	Status	Habitat	Occurrence/Comments
<b>CERVIDAE</b> <b>DEER</b>			
Southern mule deer <i>Odocoileus hemionus fuliginata</i>	MSCP	Many habitats.	There is a low potential for this species to use the project site, as the site lies within a pocket of undeveloped land surrounded by multi-family housing, a moderately busy street, and an athletic field.

(I) = Introduced species

**STATUS CODES**

Listed/Proposed

FE = Listed as endangered by the federal government

FT = Listed as threatened by the federal government

SE = Listed as endangered by the state of California

Other

CFP = California fully protected species

CSC = California Department of Fish and Game species of special concern

MSCP = Multiple Species Conservation Program covered species

\* = Taxa listed with an asterisk fall into one or more of the following categories:

- Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
- Population(s) in California that may be peripheral to the major portion of a taxon's range but which are threatened with extirpation within California
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands)

## **ATTACHMENT 5**

### **City of San Diego Biological Impacts & Monitoring MMRP Conditions**

## **BIOLOGICAL IMPACTS & MONITORING MMRP CONDITIONS:**

To ensure that site development would avoid significant environmental impacts, a Mitigation, Monitoring, and Reporting Program (MMRP) is required. Compliance with the mitigation measures shall be the responsibility of the applicant. The mitigation measures are described below.

Prior to the issuance of a Notice to Proceed (NTP) or any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits the Assistant Deputy Director (ADD) environmental designee of the City's Land Development Review Division (LDR) shall verify that the following statement is shown on the grading and/or construction plans as a note under the heading *Environmental Requirements*: "*PTS 463835 – North University City Fire Station Project- SDP is subject to Mitigation, Monitoring and Reporting Program and shall conform to the mitigation conditions as contained in the Mitigated Negative Declaration/463835*".

### **Biological Resources**

Prior to the issuance of a Notice to Proceed (NTP) or any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits the ADD environmental designee of the City's LDR Division shall incorporate the following mitigation measures into the project design and include them verbatim on all appropriate construction documents.

#### **Prior to Permit Issuance**

- A. Land Development Review (LDR) Plan Check
  1. Prior to NTP or issuance for any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits, whichever is applicable, the ADD environmental designee shall verify that the requirements for the restoration plans and specifications, including mitigation of direct and cumulative impacts to 0.12 acre of valley needlegrass grassland with restoration of 0.367 acre of native grassland have been shown and noted on the appropriate landscape construction documents. The landscape construction documents and specifications must be found to be in conformance with this report.
- B. Restoration Plan(s) and Specifications
  1. Landscape Construction Documents (LCD) shall be prepared on D-sheets and submitted to the City of San Diego Development Services Department, Landscape Architecture Section (LAS) for review and approval. LAS shall consult with Mitigation Monitoring Coordination (MMC) and obtain concurrence prior to approval of LCD. The LCD shall consist of restoration, planting, irrigation and erosion control plans; including all required graphics, notes, details, specifications, letters, and reports as outlined below.
  2. Landscape Restoration Planting and Irrigation Plans shall be prepared in accordance with the San Diego Land Development Code (LDC) Chapter 14, Article 2, Division 4, the LDC Landscape Standards submittal requirements, and Attachment "B" (General Outline for Restoration Plans) of the City of San Diego's LDC Biology Guidelines (July 2002). The Principal Qualified Biologist (PQB) shall identify and adequately document all pertinent information

concerning the restoration goals and requirements, such as but not limited to, plant/seed palettes, timing of installation, plant installation specifications, method of watering, protection of adjacent habitat, erosion and sediment control, performance/success criteria, inspection schedule by City staff, document submittals, reporting schedule, ect. The LCD shall also include comprehensive graphics and notes addressing the ongoing maintenance requirements (after final acceptance by the City).

3. The Restoration Installation Contractor (RIC), Restoration Maintenance Contractor (RMC), Construction Manager (CM) and Grading Contractor (GC), where applicable shall be responsible to insure that for all grading and contouring, clearing and grubbing, installation of plant materials, and any necessary maintenance activities or remedial actions required during installation and the 120 day plant establishment period are done per approved LCD. The following procedures at a minimum, but not limited to, shall be performed:
  - a. The RMC shall be responsible for the maintenance of the creation and restoration area for a minimum period of 120 days (the 120-day PEP). Maintenance visits shall be conducted monthly or as directed by the Qualified Biological Monitor (QBM) (City approved) throughout the plant establishment period.
  - b. At the end of the 120 day period the PQB shall review the mitigation area to assess the completion of the short-term plant establishment period and submit a report for approval by MMC.
  - c. MMC will provide approval in writing to begin the five year long-term establishment/maintenance and monitoring program.
  - d. Existing indigenous/native species shall not be pruned, thinned or cleared in the restoration/mitigation area.
  - e. The restoration site shall not be fertilized.
  - f. The RIC is responsible for reseeding (if applicable) if weeds are not removed, within one week of written recommendation by the PQB.
  - g. Weed control measures shall include the following: (1) hand removal, (2) cutting, with power equipment, and (3) chemical control. Hand removal of weeds is the most desirable method of control and will be used where feasible and possible without causing unnecessary damage to native plants in the restoration area.
  - h. Damaged areas shall be repaired immediately by the RIC/RMC. Insect infestations, plant diseases, herbivory, and other pest problems will be closely monitored throughout the five-year maintenance period. Protective mechanisms such as metal wire netting shall be used as necessary. Diseased and infected plants shall be immediately disposed of off site in a legally-acceptable manner at the discretion of the PQB or QBM. Where possible, biological controls will be used instead of pesticides and herbicides.

#### C. Letters of Qualification Have Been Submitted to ADD

1. The applicant shall submit, for approval, a letter verifying the qualifications of the biological professional to MMC. This letter shall identify the PQB, Principal Restoration Specialist (PRS), and QBM, where applicable, and the names of all other persons involved in the implementation of the restoration plan and biological monitoring program, as they are defined in the City of San Diego Biological

Review References. Resumes and the biology worksheet should be updated annually.

2. MMC will provide a letter to the applicant confirming the qualifications of the PQB/PRS/QBM and all City Approved persons involved in the restoration plan and biological monitoring of the project.
3. Prior to the start of work, the applicant must obtain approval from MMC for any personnel changes associated with the restoration plan and biological monitoring of the project.

### **Prior to Start of Construction**

#### **A. PQB/PRS Shall Attend Preconstruction (Precon) Meetings**

1. Prior to beginning any work that requires monitoring:
  - a. The owner/permittee or their authorized representative shall arrange and perform a Precon Meeting that shall include the PQB or PRS, Construction Manager (CM) and/or Grading Contractor (GC), Landscape Architect (LA), Restoration Installation Contractor (RIC), Restoration Maintenance Contractor (RMC), Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC.
  - b. The PQB shall also attend any other grading/excavation related Precon Meetings to make comments and/or suggestions concerning the restoration plan(s) and specifications with the RIC, CM and/or GC.
  - c. If the PQB is unable to attend the Precon Meeting, the owner shall schedule a focused Precon Meeting with MMC, PQB/PRS, CM, BI, LA, RIC, RMC, RE and/or BI, if appropriate, prior to the start of any work associated with the restoration phase of the project, including site grading preparation.
2. Where Restoration Work Will Occur
  - a. Prior to the start of any work, the PQB/PRS shall also submit a restoration monitoring exhibit (RRME) based on the appropriate reduced LCD (reduced to 11"x 17" format) to MMC, and the RE, identifying the areas to be restored including the delineation of the limits of any disturbance/grading and any excavation.
  - b. PQB shall coordinate with the construction superintendent to identify appropriate Best Management Practices (BMP's) on the RRME.
3. When Biological Monitoring Will Occur
  - a. Prior to the start of any work, the PQB/PRS shall also submit a monitoring procedures schedule to MMC and the RE indicating when and where biological monitoring and related activities will occur.
4. PQB Shall Contact MMC to Request Modification
  - a. The PQB may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the restoration plans and specifications. This request shall be based on relevant information (such as other sensitive species not listed by federal and/or state agencies and/or not covered by the MSCP and to which any impacts may be considered significant under CEQA) which may reduce or increase the potential for biological resources to be present.

### **During Construction**

#### **A. PQB or QBM Present During Construction/Grading/Planting**

1. The PQB or QBM shall be present full-time during construction activities including but not limited to, site preparation, cleaning, grading, excavation, landscape establishment in association with the project, which could result in impacts to sensitive biological resources as identified in the LCD and on the RRME. **The RIC and/or QBM are responsible for notifying the PQB/PRS of changes to any approved construction plans, procedures, and/or activities. The PQB/PRS is responsible to notify the CM, LA, RE, BI and MMC of the changes.**
2. The PQB or QBM shall document field activity via the Consultant Site Visit Record Forms (CSVSR). The CSVSR's shall be faxed by the CM the first day of monitoring, the last day of monitoring, monthly, and in the event that there is a deviation from conditions identified within the LCD and/or biological monitoring program. The RE shall forward copies to MMC.
3. The PQB or QBM shall be responsible for maintaining and submitting the CSVSR at the time that CM responsibilities end (i.e., upon the completion of construction activity other than that of associated with biology).
4. All construction activities (including staging areas) shall be restricted to the development areas as shown on the LCD. The PQB/PRS or QBM staff shall monitor construction activities as needed, with MMC concurrence on method and schedule. This is to ensure that construction activities do not encroach into biologically sensitive areas beyond the limits of disturbance as shown on the approved LCD.
5. The PQB or QBM shall supervise the placement of orange construction fencing or City approved equivalent, along the limits of potential disturbance at the edge of the project footprint to protect sensitive vegetation communities in the surrounding area, including southern willow scrub, valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland, as shown on the approved LCD.
6. The PBQ shall provide a letter to MMC that limits of potential disturbance has been surveyed, staked and that the construction fencing is installed properly
7. The PQB or QBM shall oversee implementation of BMP's, such as gravel bags, straw logs, silt fences or equivalent erosion control measures, as needed to ensure prevention of any significant sediment transport. In addition, the PQB/QBM shall be responsible to verify the removal of all temporary construction BMP's upon completion of construction activities. Removal of temporary construction BMP's shall be verified in writing on the final construction phase CSVSR.
8. PQB shall verify in writing on the CSVSR's that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking or other construction related activities shall occur adjacent to sensitive habitat. These activities shall occur only within the designated staging area located outside the area defined as biological sensitive area.
9. The long-term establishment inspection and reporting schedule per LCD must all be approved by MMC prior to the issuance of the Notice of Completion (NOC) or any bond release.

B. Disturbance/Discovery Notification Process

1. If unauthorized disturbances occurs or sensitive biological resources are discovered that were not previously identified on the LCD and/or RRME, the PQB or QBM shall direct the contractor to temporarily divert construction in the area of disturbance or discovery and immediately notify the RE or BI, as appropriate.
  2. The PQB shall also immediately notify MMC by telephone of the disturbance and report the nature and extent of the disturbance and recommend the method of additional protection, such as fencing and appropriate Best Management Practices (BMP's). After obtaining concurrence with MMC and the RE, PQB and CM shall install the approved protection and agreement on BMP's.
  3. The PQB shall also submit written documentation of the disturbance to MMC within 24 hours by fax or email with photos of the resource in context (e.g., show adjacent vegetation).
- C. Determination of Significance
1. The PQB shall evaluate the significance of disturbance and/or discovered biological resource and provide a detailed analysis and recommendation in a letter report with the appropriate photo documentation to MMC to obtain concurrence and formulate a plan of action which can include fines, fees, and supplemental mitigation costs.
  2. MMC shall review this letter report and provide the RE with MMC's recommendations and procedures.

### **Post Construction**

- A. Mitigation Monitoring and Reporting Period
1. PEP and Five-Year Maintenance Period
    - a. The RMC shall be retained to complete maintenance monitoring activities throughout the PEP and five-year mitigation monitoring period.
    - b. Maintenance visits will be conducted monthly throughout the PEP, quarterly for the first year, and, and quarterly thereafter.
    - c. Maintenance activities will include all items described in the LCD.
    - d. Plant replacement will be conducted as recommended by the PQB (note: plants shall be increased in container size relative to the time of initial installation or establishment or maintenance period may be extended to the satisfaction of MMC).
  2. Five-Year Biological Monitoring
    - a. All biological monitoring and reporting shall be conducted by a PQB or QBM, as appropriate, consistent with the LCD.
    - b. Monitoring shall involve both qualitative horticultural monitoring and quantitative monitoring (i.e., success criteria). Horticultural monitoring shall focus on soil conditions (e.g., moisture and fertility), container plant health, seed germination rates, presence of native and non-native (e.g., invasive exotic) species, any significant disease or pest problems, irrigation repair and scheduling, trash removal, illegal trespass, and any erosion problems.
    - c. After plant installation is complete, qualitative monitoring surveys will occur bi-weekly for the first month of the PEP, monthly for the remainder of the PEP and first three months of Maintenance and Moniotring, and quarterly thereafter.

- d. Upon the completion of the 120-days short-term plant establishment period, quantitative monitoring surveys shall be conducted at 0, 12, 24, 36, 48 and 60 months by the PQB or QBM, to determine compliance with the performance standards identified on the LCD. All plant material must have survived without supplemental irrigation for the last two years.
- e. Quantitative monitoring shall include the use of fixed transects or releve methods and photo points to determine the vegetative cover within the restored habitat. Collection of transect or releve data within the restoration site shall result in the calculation of percent cover or cover class for each plant species present, percent cover of native grassland, and percent cover of non-native/non invasive vegetation. During the PEP, container plants will also be counted to determine percent survivorship. The data will be used to determine attainment of performance/success criteria identified within the LCD.
- f. Biological monitoring requirements may be reduced if, before the end of the fifth year, the restoration meets the fifth year criteria and the irrigation has been terminated for a period of at least two years.
- g. The PQB or QBM shall oversee implementation of post-construction BMPs, such as gravel bags, straw logs, silt fences or equivalent erosion control measures, as needed to prevent significant sediment transport. In addition, the PQB/QBM shall be responsible to verify the removal of all temporary post-construction BMP's upon completion of construction activities. Removal of temporary post-construction BMPs shall be verified in writing on the final post-construction phase CSV.

#### C. Submittal of Draft Monitoring Report

1. A draft monitoring report shall be prepared to document the completion of the 120-day plant establishment period. The report shall include discussion on weed control, horticultural treatments (pruning, mulching, and disease control), erosion control, trash/debris removal, replacement planting/reseeding, site protection/signage, pest management, vandalism, and irrigation maintenance. The restoration effort shall be visually assessed at the end of 120 day period to determine mortality of individuals.
2. The PQB shall submit two copies of the draft monitoring report which describes the results, analysis, and conclusions of all phases of the Biological Monitoring and Reporting Program (with appropriate graphics) to MMC for review and approval within 30 days following the completion of monitoring. Monitoring reports shall be prepared on an annual basis for a period of five years. Site observation reports (SORs) shall be prepared by the PQB following each site visit and provided to the owner, RMC and RIC. SORs shall review maintenance activities, qualitative and quantitative (when appropriate) monitoring results including progress of the restoration relative to the performance/success criteria, and the need for any remedial measures.
3. Draft annual reports (three copies) summarizing the results of each progress report including quantitative monitoring results and photographs taken from permanent viewpoints shall be submitted to MMC for review and approval within 30 days following the completion of monitoring.
4. MMC shall return the Draft Monitoring Report to the PQB for revision or, for preparation of each report.

5. The PQB shall submit revised Monitoring Report to MMC (with a copy to RE) for approval within 30 days.
  6. MMC will provide written acceptance of the PQB and RE of the approved report.
- D. Final Monitoring Reports(s)
1. PQB shall prepare a final monitoring report upon achievement of the fifth year success criteria and completion of the five year maintenance period.
    - a. This report may occur before the end of the fifth year if the restoration meets the fifth year success criteria and the irrigation has been terminated for a period of the last two years.
    - b. The final monitoring report shall be submitted to MMC for evaluation of the success of the mitigation effort and final acceptance. A request for a pre-final inspection shall be submitted at this time, MMC will schedule after review of report.
    - c. If at the end of the five years any of the restored area fails to meet the project's final success standards, the applicant must consult with MMC. This consultation shall take place to determine whether the restoration effort is acceptable. The applicant understands that failure of any significant portion of the restoration area may result in a requirement to replace or renegotiate that portion of the site and/or extend the monitoring and establishment/maintenance period until all success standards are met.

**EXHIBIT F**  
**RESTORATION AND REVEGETATION PLAN**



**Restoration and Revegetation Plan  
for the North University City  
Fire Station 50 Project,  
San Diego, California**

*Prepared for*  
Mr. Jasiah Neff  
City of San Diego  
Engineering & Capital Projects  
525 B Street, Suite 750  
San Diego, CA 92101

*Prepared by*  
RECON Environmental, Inc.  
1927 Fifth Avenue  
San Diego, CA 92101  
P 619.308.9333

RECON Number 7617  
September 14, 2017

A handwritten signature in black ink, appearing to read "B Parker", with a long horizontal flourish extending to the right.

Brian Parker, Associate Biologist

**TABLE OF CONTENTS**

**Acronyms..... iii**

**1.0 Introduction ..... 1**

    1.1 Project Background and Purpose ..... 1

    1.2 Project Location ..... 1

    1.3 Goals and Objectives / Mitigation Requirements ..... 8

**2.0 Roles and Responsibilities ..... 9**

    2.1 City of San Diego ..... 9

    2.2 Project Biologist ..... 10

    2.3 Installation (Landscape) Contractor ..... 10

**3.0 Existing Conditions..... 10**

    3.1 Environmental Setting of Impacted Areas ..... 10

    3.2 Environmental Setting of Restoration Area ..... 12

    3.3 Restoration Site Characteristics ..... 12

**4.0 Implementation..... 13**

    4.1 Site Preparation ..... 13

    4.2 Irrigation ..... 16

    4.3 Plant Installation ..... 16

    4.4 Reporting ..... 18

**5.0 Adaptive Management Strategy..... 18**

**6.0 Maintenance and Monitoring Program..... 19**

    6.1 Schedule..... 19

    6.2 120-day Plant Establishment Period ..... 20

    6.3 Maintenance Period..... 23

    6.4 Monitoring and Reporting ..... 24

    6.5 Performance Standards..... 26

**7.0 Remediation Measures ..... 27**

**8.0 Completion of Mitigation Notification ..... 28**

    8.1 Restoration Area..... 28

    8.2 Revegetation Area ..... 28

**9.0 References Cited..... 28**

**TABLE OF CONTENTS (cont.)**

**FIGURES**

1: Regional Location of the North University City Fire Station 50 Project..... 2  
 2: Project Site Location on USGS Map..... 3  
 3: Project Location on City 800' Map..... 4  
 4: Project Location on Aerial Photograph..... 5  
 5: Existing Biological Resources ..... 6  
 6: Restoration Plan ..... 7

**TABLES**

1: Native Grassland Creation, Restoration, and Revegetation Areas ..... 8  
 2: Vegetation Communities/Land Cover Types..... 11  
 3: Container Plant and Seed Palette ..... 17  
 4: Maintenance and Monitoring Schedule..... 20  
 5: Anticipated Exotic Plant Species ..... 21  
 6: Performance Standards – Restoration Area ..... 27  
 7: Performance Standards – Revegetation Area ..... 27

**ATTACHMENT**

1: City of San Diego Biological Impacts & Monitoring Mitigation Monitoring and Reporting Program Conditions

## Acronyms

AMSL	above mean sea level
APN	Assessor's Parcel Number
BMZ	Brush Management Zone
Cal-IPC	California Invasive Plant Council
CEQA	California Environmental Quality Act
City	City of San Diego
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
dB(A)	A-weighted decibels
MHPA	Multi-Habitat Planning Area
MMC	Mitigation Monitoring Coordination
MMRP	Mitigation Monitoring and Reporting Program
MSCP	Multiple Species Conservation Program
PEP	Plant Establishment Period
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
Whitebook	City of San Diego Standard Specifications for Public Works Construction

# 1.0 Introduction

This document serves as the Restoration and Revegetation Plan (plan) for the North University City Fire Station No. 50 Project (project). This plan has been developed in accordance with Attachment B of the City of San Diego (City) Biology Guidelines (2012), City of San Diego Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines (1997), and the City of San Diego Landscape Standards (2004).

The project will cause impacts to valley needlegrass grassland that will require mitigation via a combination of native grassland creation and restoration. Other sensitive vegetation communities that will be impacted by the project (Diegan coastal sage scrub and non-native grassland) will require mitigation with preservation within the MHPA or purchase of mitigation credits. Additionally, the invasive plants vanilla-scented wattle (*Acacia redolens*) and Mexican fan palm (*Washingtonia robusta*) will be eradicated from the MHPA to the south of the project and the area will be revegetated with native grassland.

## 1.1 Project Background and Purpose

The project includes construction and operation of a three-story, 12,000-square-foot fire station, including a workshop, vestibule, watch room, exterior patio, and associated components to house 10 crew members. The fire station will also include bays for storage of fire engines and ambulances, a 14-space parking lot with gated entry, a storage area for a fuel tank, generator, and transformer, and a trash enclosure. There will be three 75-foot-wide flow-through planters to treat and capture all storm water runoff on-site. Landscaping within the site will feature native species.

## 1.2 Project Location

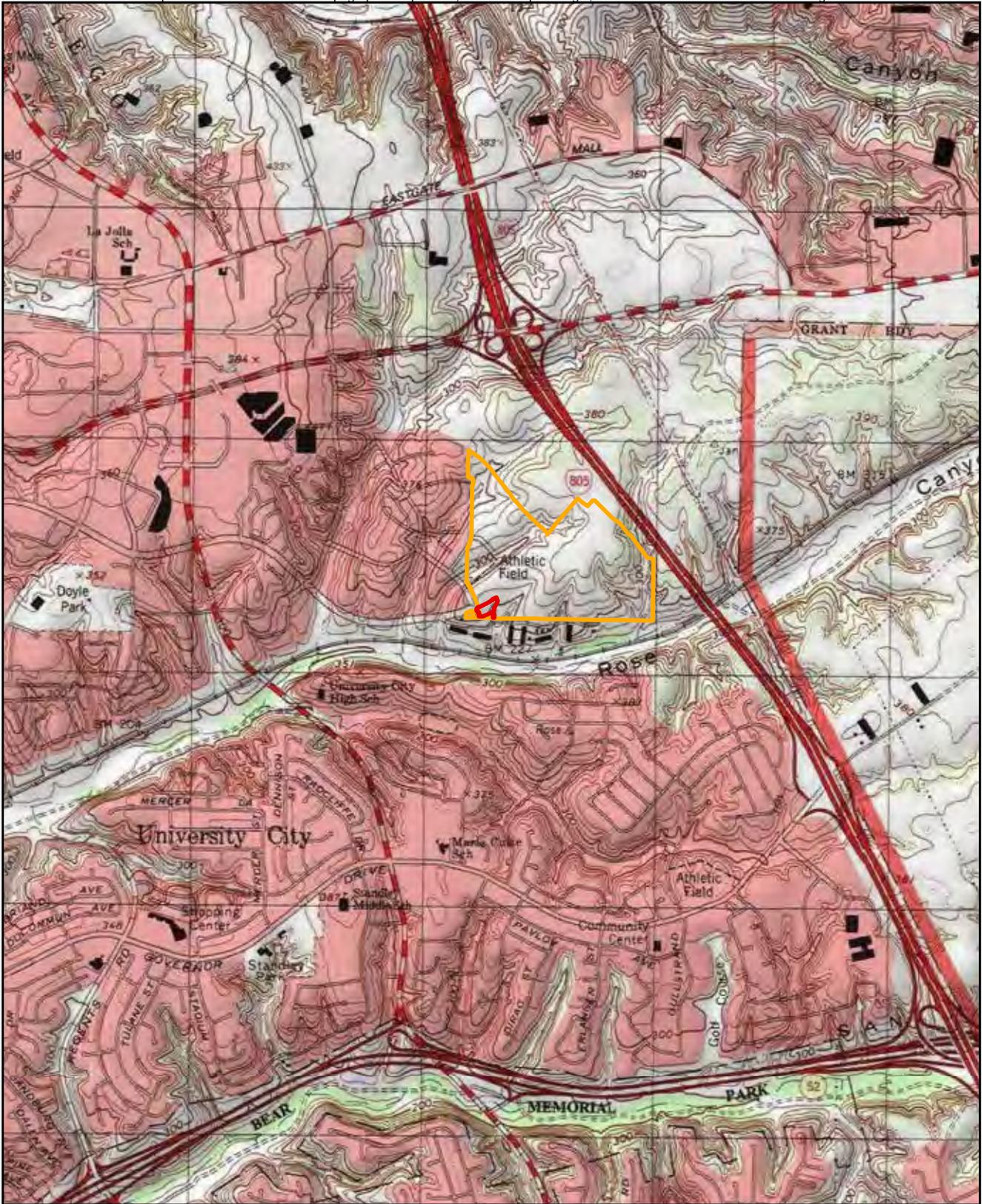
The project is located in the community of University City, in the northern portion of the City (Figures 1, 2, and 3). It is situated in the southwest corner of Assessor's Parcel Number (APN) 345-01-124, which is a City-owned parcel covering approximately 92 acres and extends across the athletic fields north of Nobel Drive and east to Interstate 805. The project site is within the U.S. Geological Survey (USGS) La Jolla quadrangle, Township 15 South, Range 3 West, on unsectioned lands within the Pueblo Lands of San Diego land grant (USGS 1996; see Figure 2). An aerial view of the project site and survey area is shown on Figure 4. The project site is within the City's Multiple Species Conservation Program (MSCP) Subarea Plan (City of San Diego 1997) boundary and it lies largely within the MHPA (Figure 5).

The habitat creation and restoration (hereafter simplified as "restoration" where appropriate) described in this report will occur within the MHPA, just southeast of the proposed fire station, outside the Brush Management Zones (BMZ) of the new structure (Figure 6). Restoration will occur entirely within areas mapped as non-native grassland, disturbed land, and ornamental plantings. Revegetation will occur within the MHPA, west of the restoration area, and will include portions within and outside BMZ 2 for the fire station.



 Project Site

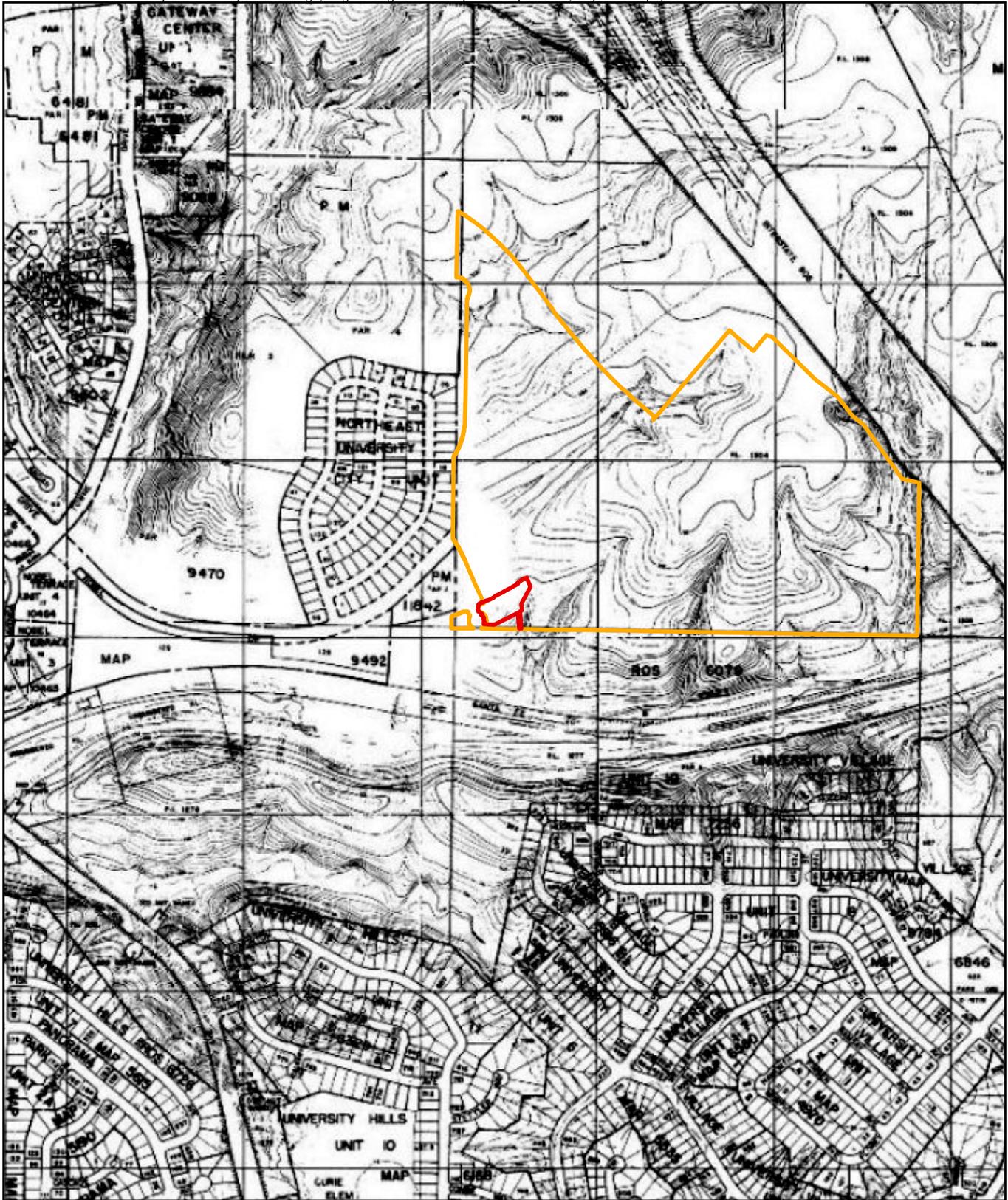
**FIGURE 1**  
**Regional Location of the North University City**  
**Fire Station 50 Project**



-  Project Site
-  Parcel Boundary

FIGURE 2

Project Site Location on USGS Map

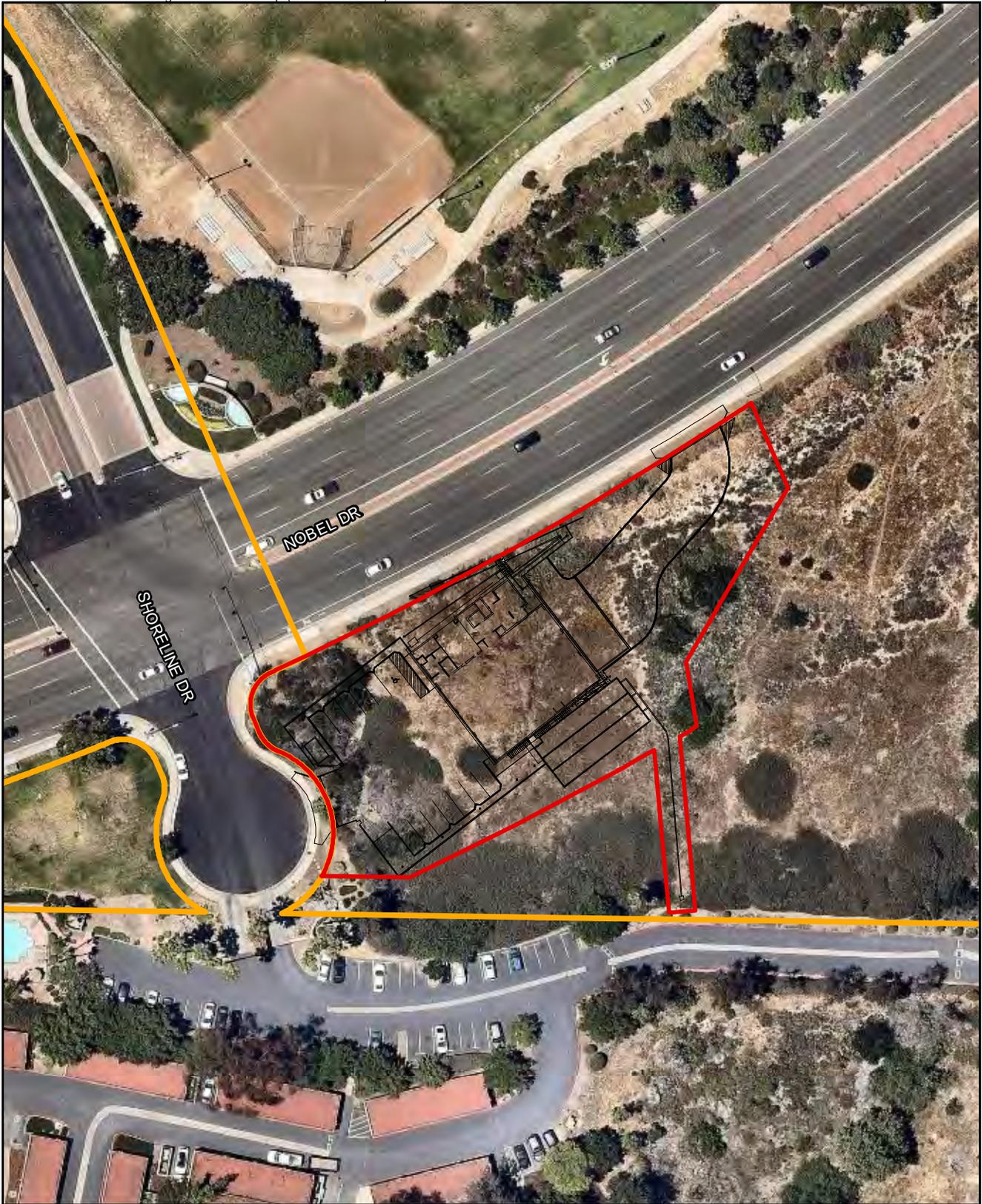


-  Project Site
-  Parcel Boundary



FIGURE 3

Project Location on City 800' Map



- Project Site
- Parcel Boundary
- Site Plan

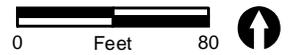
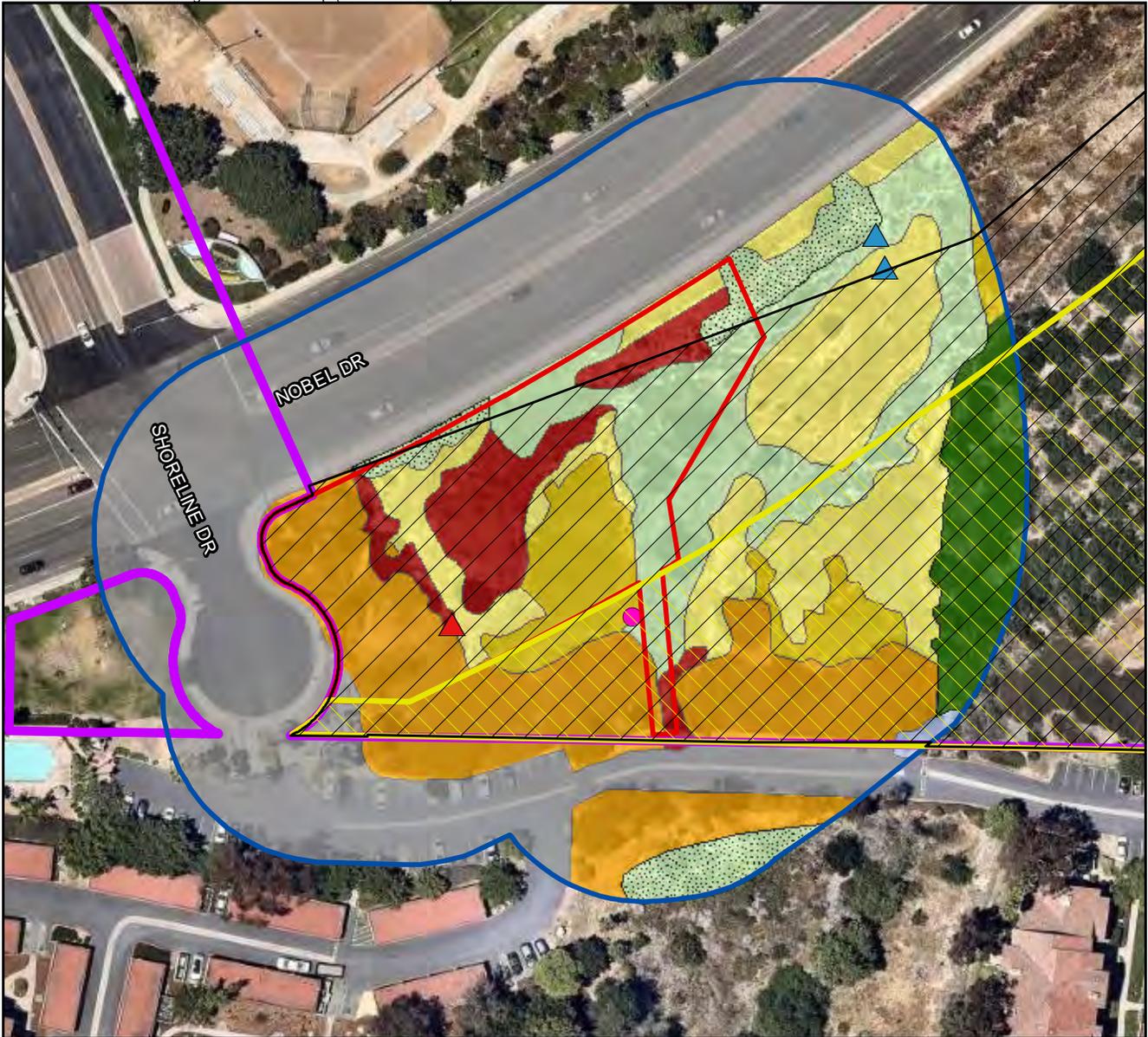


FIGURE 4

Project Location on Aerial Photograph



- Project Site
- Parcel
- Survey Area
- City of San Diego MHPA
- Eastgate Technology Park Mitigation Area

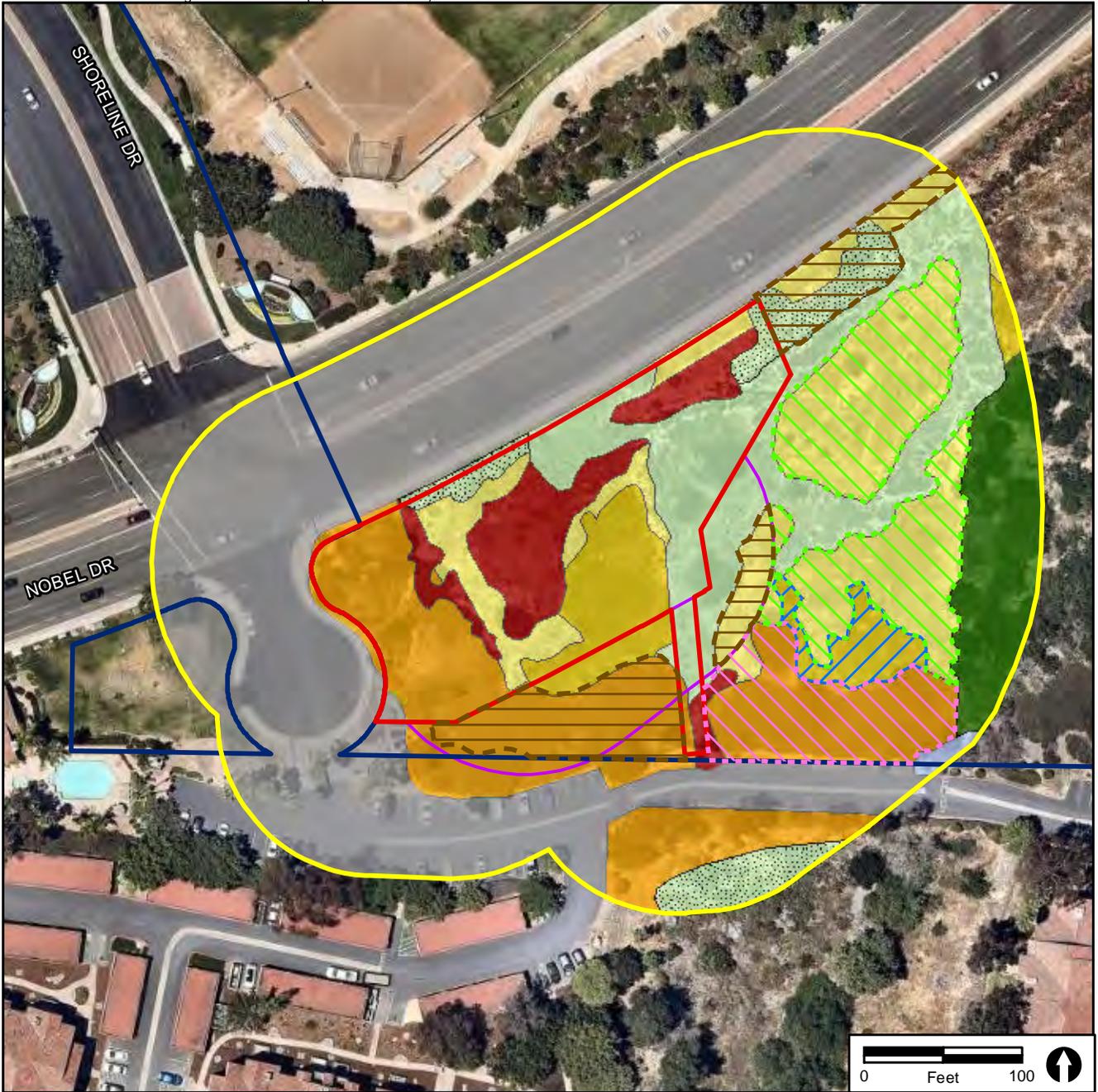
**Sensitive Species**

- ▲ San Diego County Viguiera (*Bahiopsis laciniata*)
- ▲ Ashy Spike-moss (*Selaginella cinerascens*)
- Belding's Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)

**Vegetation Communities**

- Urban/Developed Land
- Diegan Coastal Sage Scrub
- Diegan Coastal Sage Scrub - Disturbed
- Disturbed Land
- Valley Needlegrass Grassland
- Non-native Grassland
- Ornamental Plantings
- Southern Mixed Chaparral
- Southern Willow Scrub





### 1.3 Goals and Objectives / Mitigation Requirements

The goal of this plan is restoration of 0.651 acre (0.217 acre of creation and 0.434 acre of restoration) and revegetation of 0.298 acre of native grassland/Diegan coastal sage scrub to maintain and enhance biological diversity in the region and conserve sensitive species and their habitats. The project will impact valley needlegrass grassland, Diegan coastal sage scrub (including disturbed), non-native grassland, disturbed land, and ornamental plantings. Impacts to disturbed land and ornamental plantings will not require mitigation. Impacts to Diegan coastal sage scrub (including disturbed) and non-native grassland will be mitigated via preservation of existing habitat within the MHPA, as described in the project's Biological Survey Report (RECON 2016). Impacts to valley needlegrass grassland will be mitigated with the native grassland restoration described in this plan.

A total of 0.12 acre of valley needlegrass grassland will be impacted by the project. This impact will occur within an area that was previously set aside as mitigation for the Eastgate Technology Park project. This impact is considered both a significant direct impact and a significant cumulative impact. As described in the City's California Environmental Quality Act (CEQA) Significance Determination Thresholds (2011), the direct impact component may be mitigated with creation, restoration, or preservation at a 2:1 ratio per the City's Biology Guidelines. Because the impact will occur within a dedicated mitigation area, that mitigation ratio has been increased to 3:1. Additionally, the cumulative impact component may be mitigated only via creation at a minimum 1:1 ratio. The total mitigation requirement for the project is 0.367 acre, including a minimum of 0.12 acre of creation. Thus, the 0.651 acre of creation and restoration (Table 1) exceeds the mitigation requirement by 0.284 acre. This excess restoration, plus the 0.298 acre of revegetation is intended to improve the habitat value within and adjacent to the MHPA adjacent to the fire station project.

The creation and restoration areas were determined based on the existing vegetation present, with land mapped as ornamental plantings targeted for creation, and areas mapped as disturbed land and non-native grassland targeted for restoration. As required per the City's Mitigation Monitoring Reporting Program (MMRP) conditions (Attachment 1), restored areas will be subject to five years of maintenance, monitoring, and reporting, and revegetated areas will be subject to 25 months of maintenance, monitoring and reporting.

Restoration Area	Size (acre)
Habitat Creation	0.217
Habitat Restoration	0.434
Habitat Revegetation	0.192
<b>Total</b>	<b>0.843</b>

Revegetation will occur in three areas (see Figure 6):

1. An area of non-native grassland and disturbed Diegan coastal sage scrub east of the development area and just south of Nobel Drive.
2. An area of invasive plant species (vanilla-scented wattle and Mexican fan palm) that will be removed from inside the MHPA west of the restoration area.
3. A patch of non-native grassland within the fire station project's BMZ and inside the MHPA.

Non-native species will be removed from these areas and they will be revegetated with native grassland and sage scrub species. The revegetation area will be subject to 25 months of maintenance, monitoring, and reporting. Because the revegetation area is not designed to mitigate project impacts, the overall purpose and requirements for this area differs from those for the restoration area.

The long-term goal of this plan is to establish a self-sustainable, functioning ecosystem that is in equilibrium with the surrounding landscape. To meet this goal, the objectives for this plan are:

- Expand and enhance the area of native grassland in the project vicinity by restoring and revegetating habitat within areas that currently contain non-native and invasive vegetation.
- Protect the existing, restored, and revegetated biological resources from disturbance within and adjacent to the MHPA while accommodating compatible public land uses.
- Enhance and restore native plant associations and functional wildlife connections in strategic locations to provide viable wildlife and sensitive species habitat.
- Facilitate monitoring of selected target species, habitats, and linkages in order to ensure long-term persistence of viable populations of priority plant and animal species and to ensure functional habitats and linkages.

This plan complies with the City's standard Biological Impacts and MMRP Conditions. A copy of these conditions is included as Attachment 1.

## 2.0 Roles and Responsibilities

### 2.1 City of San Diego

The City Engineering & Capital Projects Department shall be responsible for coordination and management of project activities. Decisions to stop work are the responsibility of the Engineering & Capital Projects Department, which shall have authority in decisions to suspend payment or terminate such contracts. This includes all phases of project installation, maintenance, and biological monitoring.

## 2.2 Project Biologist

The project biologist shall be a qualified individual or team of qualified individuals with a minimum of four years' experience in upland habitat restoration. The project biologist shall perform the following tasks and be responsible for monitoring the restoration in accordance with the habitat mitigation plan specifications:

- Consult with the contractor on any activities that may disturb the site.
- Monitor qualified subcontractors in execution of plan implementation and maintenance.
- Oversee and perform the required monitoring and reporting in accordance with the procedures established in this plan.

## 2.3 Installation (Landscape) Contractor

The landscape contractor shall have a minimum of five years of experience in upland habitat restoration and shall be a firm that specializes in installing and maintaining native habitat. The landscape contractor shall be responsible for implementing the tasks outlined in this plan under the supervision of the project biologist.

- Prepare areas for planting.
- Implement restoration plan.
- Maintain site as outlined in this plan.

## 3.0 Existing Conditions

### 3.1 Environmental Setting of Impacted Areas

For the purposes of biological surveys, a survey area was defined that includes the project development footprint, plus a minimum 100-foot buffer. A total of eight vegetation communities occur within the survey area: southern willow scrub, valley needlegrass grassland, Diegan coastal sage scrub (including disturbed), southern mixed chaparral, non-native grassland, disturbed land, ornamental vegetation, and urban/developed land. The acreage of each vegetation community and land cover type within the survey area are presented in Table 2 and shown in Figure 5. The tier for each vegetation community and land cover type is identified per the City's Biology Guidelines.

The project will result in direct permanent impacts to a total of 0.91 acre, including 0.81 acre inside the MHPA and 0.10 acre outside the MHPA (see Table 2 and Figure 6). A total of 0.29 acre (0.27 acre inside the MHPA and 0.02 acre outside the MHPA) lies within BMZ 2 and will be considered impact-neutral.

Two sensitive plant species occur within the project site: ashy spike-moss (*Selaginella cinerascens*) and San Diego County viguiera (*Bahiopsis laciniata*). Ashy spike-moss, a California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 4.1 species (CNPS 2015), occurs within the valley needlegrass grassland and Diegan coastal sage scrub in the southern portion of the site, as well as within disturbed land in the western portion of the site. An estimated 50 individuals will be impacted by the project. Two San Diego County viguiera, a CNPS CRPR 4.2 species, occur in Diegan coastal sage scrub and non-native grassland in the northeast portion of the survey area; however, none will be impacted by the project (see Figure 5).

Two sensitive wildlife species were detected within or adjacent to the survey area: Belding’s orange-throated whiptail (*Aspidoscelis hyperythra beldingi*) and western bluebird (*Sialia mexicana*). Belding’s orange-throated whiptail was detected in the valley needlegrass grassland areas and is expected to be present throughout the valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland survey area, including in areas that will be impacted. One western bluebird was observed among the landscaping trees associated with the athletic fields north of Nobel Drive (greater than 100 feet from the project site boundary). It is not expected to use habitat on-site, but could nest in the larger trees along Rose Canyon, which is approximately 750 feet south of the site.

Protocol surveys for coastal California gnatcatcher (*Polioptila californica californica*) were negative, but incidental observations of the species have been made subsequently within and adjacent to the site. Although patchy and interspersed with grasslands and disturbed land, there is potentially suitable Diegan coastal sage scrub present on-site. Other, higher quality Diegan coastal sage scrub occurs off-site to the east. Given the presence of marginally suitable habitat on-site and highly suitable habitat in the area, there is moderate potential for coastal California gnatcatchers to occur on-site.

**Table 2**  
**Vegetation Communities/Land Cover Types**  
**(acres)**

Vegetation Community	City of San Diego Tier	Existing On-site	Impacts			
			Inside MHPA		Outside MHPA	Total
			Outside Mitigation Parcel	Inside Mitigation Parcel		
Southern willow scrub	Riparian	0.01	0.00	0.00	0.00	0.00
Valley needlegrass grassland	I	0.24	0.12	<0.01*	0.00	0.12
Diegan coastal sage scrub	II	0.53	0.18	0.01	0.03	0.21**
Disturbed Diegan coastal sage scrub	II	0.18	0.02	0.00	0.02	0.04
Southern mixed chaparral	IIIA	0.22	0.00	0.00	0.00	0.00
Non-native grassland	IIIB	0.66	0.11	0.00	0.02	0.13*
Disturbed Land	IV	0.22	0.18	<0.01*	0.03	0.21
Ornamental Plantings	IV	0.78	0.18	0.01	0.00	0.19
Urban/developed Land	N/A	1.84	0.01	0.00	0.00	0.01
<b>Total</b>		<b>4.68</b>	<b>0.80</b>	<b>0.01</b>	<b>0.10</b>	<b>0.91**</b>

\*Actual impact is 76 square feet for valley needlegrass grassland and 110 square feet for disturbed land.  
MHPA = multi-habitat planning area.  
\*\* Total may not equal sum of cells due to rounding.

Other sensitive wildlife species that have potential to occur on the site include red diamond rattlesnake (*Crotalus ruber*), coast horned lizard (*Phrynosoma coronatum blainvillii*), Cooper's hawk (*Accipiter cooperii*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and San Diego desert woodrat (*Neotoma lepida intermedia*).

## 3.2 Environmental Setting of Restoration Area

The native grassland restoration area is located just southeast of the main project site (see Figure 6), within the same undeveloped City-owned parcel (APN 345-01-124). It occurs at the western edge of a large stretch patch of undeveloped habitat extending east to and across Interstate 805, and south to Rose Canyon. It lies within the City's MHPA in the Rose Canyon Open Space. In addition to the fire station, existing multi-family residential developments occur to the south and west of the site, and a large athletic field is located to the north of Nobel Drive.

Topography within the survey area generally slopes from a high of 312 feet above mean sea level (AMSL) in the northwest to approximately 292 feet AMSL in the southeast (USGS 1996). Soils within the survey area are Huerhuero loam, 15 to 30 percent slopes eroded (USDA 1973). The Huerhuero series consists of moderately well-drained loams that have a clay subsoil (USDA 1973).

## 3.3 Restoration Site Characteristics

### 3.3.1 Restoration Area

The restoration area consists of non-native vegetation communities and land uses (non-native grassland, ornamental plantings, and disturbed land) with an island of valley needlegrass grassland in the center. Topography consists of a gentle, east-facing slope, leading down to a moderate-sized patch of southern mixed chaparral. The underlying soils are Huerhuero loam (15 to 30 percent slopes, eroded).

The existing valley needlegrass grassland adjacent to the restoration area will be used as a reference site for the development of success standards. Because this patch is adjacent to the areas to be restored, it will provide clear indication of the success of the native grassland restoration.

Access to the restoration area could be achieved either from the existing parking area for the residential complex, which lies immediately adjacent to the site via foot from the fire station parking lot, or from the cul-de-sac at the end of Shoreline Drive to the west.

### 3.3.2 Revegetation Area

As mentioned above, revegetation will occur in three areas:

1. An area of non-native grassland and disturbed Diegan coastal sage scrub east of the development area and just south of Nobel Drive (see Figure 6). Topography is flat in the northern portion of this area, and slopes steeply to the south from Nobel Drive.
2. An area consisting of ornamental plantings dominated by vanilla-scented wattle and Mexican fan palm along the southern property boundary. Topography in this area includes a southeast-facing slope that leads to a low point where the storm drain for the fire station will be installed.
3. A patch of non-native grassland within the fire station project's BMZ. Topography in this area consists of a west-facing slope that leads down to the same storm drain area.

The underlying soils in these three areas are Huerhuero loam (15 to 30 percent slopes, eroded).

As above, access to the revegetation area could be achieved either from the existing parking area for the residential complex, which lies immediately adjacent to the site, via foot from the fire station parking lot, or from the cul-de-sac at the end of Shoreline Drive to the west.

## 4.0 Implementation

### 4.1 Site Preparation

Site preparation will consist of site resource protection, non-native species treatment, clearing and grubbing, and installation of erosion control measures.

#### 4.1.1 Site Resource Protection

The restoration and revegetation areas are located adjacent to Nobel Drive and a private road associated with a multi-family residential complex. Neither boundary is currently fenced adjacent to the restoration and revegetation areas, and there is evidence of unauthorized pedestrian access through the site. To define the edge of the site and protect the restoration and revegetation areas from unauthorized access, temporary fencing will be installed along the southern boundary of the site where it is adjacent to the road. Where revegetation occurs adjacent to Nobel Drive, temporary fencing may be installed at the discretion of the restoration biologist. Signage will be installed along the fence line to inform pedestrian traffic of the restoration activities underway.

Pin flags or other markers will be installed along the remaining perimeter of the restoration and revegetation areas and along the shared boundary with the existing patch

of valley needlegrass grassland to identify the edge of the restoration area and prevent damage to the existing native vegetation during installation. To accomplish this, the pin flags may be placed adjacent to existing individual grass plants. Pin flags are recommended instead of larger stakes or fencing, because they will minimize damage to the soil and any cryptogamic crust while still providing a visual cue for maintenance crews and the project biologist.

### 4.1.2 Non-Native Species Treatment

Non-native species treatment will consist of treating with herbicide and/or mechanical removal of all non-native plant species. Large non-native plants, such as the acacia shrubs that occur in the ornamental plantings, will be removed by grubbing after weed eradication is complete.

Prior to the start of treatments, the project biologist is required to implement the following measures in compliance with permit requirements:

- Mark access routes if necessary to avoid impacts to native vegetation during non-native plant removal.
- Coordinate with the City and contractor in the field to review weed removal areas, access flagging, and disposal methods.
- Time the weed removal such that non-native species do not produce and dehisce viable seed within the site. Any viable seed found on non-native plants will be cut and bagged and disposed of at an approved facility.

Prior to the start of and during weed removal, the contractor shall:

- Ensure appropriate notifications are made to inform the property owner of the use of herbicide.
- Document safe operating procedures including an emergency spill clean-up plan.

Non-native species treatment will consist of herbicide treatment of live, green weeds, followed by dethatching of dead weeds with line trimmers and rakes. Care will be taken to avoid damaging native plants in the treatment areas. All weed material removed in this manner will be transported off-site and disposed of at an approved facility.

### 4.1.3 Clearing and Grubbing

Vegetation clearing will be required prior to planting and seeding in all three areas. Areas currently supporting non-native grassland and disturbed land will be dethatched and raked as described above to expose the soil and create viable germination microsites for seeding and suitable substrate for planting. The areas containing ornamental plantings (vanilla-scented wattle and Mexican fan palm) may need to be cleared and grubbed to remove the large bulk of the existing plants. Once the large ornamental plants are

removed, they will be either mulched or removed and disposed of legally at a landfill. Native plants present within the restoration and revegetation areas will be avoided during vegetation clearing. In areas with more abundant native species, such as the disturbed Diegan coastal sage scrub (see Figure 6) non-natives species may need to be removed using hand tools to prevent damage to the native plants.

As mentioned above, pin flags or other markers will be installed along the perimeter of the native grassland, adjacent to existing native grasses. The pin flags will serve as a visual reminder to avoid clearing additional vegetation or damaging the soil within the native grassland.

Following clearing and grubbing, the restoration and revegetation areas will be left in rough grade, with any depressions from removed stumps remaining in place. This will provide microtopographic variability, which can improve plant diversity of the restoration and revegetation sites.

The federally listed coastal California gnatcatcher and other bird species have been observed or have potential to occur within the MHPA in the vicinity of the restoration area. To prevent impacts to these species, clearing and grubbing must be conducted outside of the coastal California gnatcatcher breeding season (March 1 to August 15). If construction activities are to occur during the breeding season, the project shall adhere to all mitigation measures set forth in the Biological Survey Report (RECON 2016).

#### **4.1.4 Erosion Control Measures**

Following vegetation clearing, the project biologist will assess the need for erosion control measures, such as straw wattles or silt fencing. These measures will be implemented if necessary, to help protect against erosion and site damage while the container plantings and seed establish.

#### **4.1.5 Topsoil Salvage**

The City's Standard Specifications for Public Works Construction (Whitebook; City of San Diego 2015) requires salvage and storage of the top eight inches topsoil, during project construction, and reapplication within disturbed areas prior to planting. For purposes of restoration and revegetation, only topsoil within areas of native grassland, coastal sage scrub, or ornamental plantings will be salvaged and reapplied. The topsoil from areas of non-native grassland will contain a seed bank of non-native species and would therefore not be salvaged. Topsoil containing cryptogamic soils, including areas of ashy spike-moss within the development area should be carefully excavated intact to the degree feasible, and stored off-site until needed for restoration site preparation.

Following vegetation clearing and grubbing, any salvaged cryptogamic soils should be re-installed as intact clods to the restoration and revegetation areas prior to planting and seeding.

## 4.2 Irrigation

Planting will be timed to occur during the fall and winter months in order to take advantage of cooler temperatures and seasonal rainfall. Although natural precipitation may provide sufficient moisture to germinate the seed, supplemental water is recommended to assure survival of the plantings until root systems have developed sufficiently to access groundwater in the dry season. In these cases, water use is expected to be highest during the first growing season, tapering off gradually over a period of three years until no supplemental water is necessary. An irrigation schedule will be determined by the project biologist and modified based on the season of planting and rainfall patterns. Supplemental watering will be discontinued at least two years prior to the end of the five-year maintenance program.

A temporary irrigation system will be designed at the project site to provide the plants with water as they establish and acclimate to the site. Irrigation of the site will be conducted with reclaimed water, if possible. The irrigation system design will be approved by the project biologist prior to installation; the design must demonstrate appropriate coverage and frequency of watering for plant establishment. The irrigation system shall conform to the City's Landscape Standards (2004).

As-built drawings of the restoration and revegetation areas, including the irrigation system, will be submitted to the City within 120 days of completion of installation. All irrigation will be maintained by the City.

## 4.3 Plant Installation

As previously mentioned, this plan includes native grassland restoration and revegetation in areas that currently support non-native grassland, ornamental plantings, and disturbed land. The plant palette for each of the three areas will be identical; however, the project biologist may direct installation of certain species in particular areas (such as installing a higher proportion of shrub species within or adjacent to coastal sage scrub habitat). Installation will include two phases: installation of container plants and hand seeding (Table 3). Figure 6 depicts the three areas and Table 1 summarizes the acreages.

In order to optimize plant establishment, planting is required to be performed immediately prior to or during the rainy season.

### 4.3.1 Container Plant Installation

The container plant palette (see Table 3) is designed to include native grasses and forbs found around the project site, plus a moderate number of coastal sage scrub shrub species to provide increased cover and to more closely mimic the surrounding habitat.

Table 3 Container Plant and Seed Palette			
Scientific Name	Common Name	Approximate Container Planting Density (plants/acre)	Approximate Seed Density (lbs/acre)
<i>Stipa pulchra</i>	purple needlegrass	500	10
<i>Stipa cernua</i>	nodding needlegrass	250	10
<i>Allium praecox</i>	early onion	90	3
<i>Dichelostemma capitatum</i>	blue dicks	45	3
<i>Sisyrinchium bellum</i>	western blue-eyed grass	45	3
<i>Artemisia californica</i>	California sagebrush	20	--
<i>Acmispon glaber</i>	deerweed	20	--
<i>Calystegia macrostegia</i>	morning glory	10	--
<i>Salvia mellifera</i>	black sage	10	--
<i>Mimulus aurantiacus</i>	bush monkey-flower	10	3
<i>Deinandra fasciculata</i>	fascicled tarweed	--	5
<i>Nuttallanthus texanus</i>	blue toadflax	--	1
<i>Osmadenia tennella</i>	Osmadenia	--	1
<i>Pseudognaphalium biolettii</i>	bicolor cudweed	--	1
<i>Pseudognaphalium californicum</i>	California everlasting	--	1
<i>Croton setiger</i>	dove weed	--	1
<i>Daucus pusillus</i>	rattlesnake weed	--	1
<i>Laennecia coulteri</i>	Coulter's horseweed	--	1
<i>Navarretia hamata</i>	hooked navarretia	--	1
<b>Total</b>		<b>1,000</b>	<b>45</b>

The City’s Whitebook requires plants used in restoration and revegetation to originate from within a 25-mile radius of San Diego County. To the degree feasible however, container plants should be propagated from seed collected within 20 miles of the project site, where possible, in quantities directed by the project biologist. Container plants are to be grown in native soil and inoculated with beneficial mycorrhizae (mutualistic fungi), which contains natural fungi and other microorganisms.

Standard horticultural practices shall be followed for this project. This involves digging a hole approximately twice the size (width and depth) of the plant’s root ball. Plants are then positioned so that the surface of the soil in the container is at or slightly below ground level, with backfill from the excavation of the hole added carefully beneath and around the installed plant’s rootball. The soil is then firmly tamped in around the plant. Each planting will have a recessed watering basin to aid in the capture of natural rainfall and artificial irrigation.

The restoration and revegetation areas will be planted and seeded with species that are appropriate for native grassland and coastal sage scrub habitats in the area (see Table 3). Two-inch to one-gallon container stock will be planted at a density of approximately 1,000 plants per acre. Any changes to the proposed plant palette shall be determined by the project biologist and approved by City Engineering & Capital Projects Department.

### 4.3.2 Seeding

Native plant seed shall be thoroughly mixed and hand broadcast evenly across the three areas. After application of the seed, the site will be raked to a depth of one-quarter inch to ensure optimal seed to soil contact.

Native seed must be sourced from a supplier with at least five years of experience collecting native grass and other native plant seed for restoration projects in the San Diego region.

- Only species specified by the project biologist shall be collected.
- In accordance with the City's Whitebook seed must originate within a 25-mile radius of San Diego County. However, if possible, seed should be collected from the vicinity of the project site or from coastal San Diego County (within 25 miles of the coast) within a 20-mile radius of the site.
- If locally available seed does not exist for a particular species, the landscape contractor shall consult with the project biologist to determine alternatives.
- Seed shall be free from noxious weed species and be certified Pure Live Seed in quantities outlined in Table 3.

## 4.4 Reporting

Following installation, a memo summarizing the installation activities and monitoring results, and recommendations for approval of installation will be submitted to the City. Additionally, implementation activities will comply with the City's standard Biological Impacts and Monitoring MMRP Conditions (see Attachment 1).

## 5.0 Adaptive Management Strategy

An adaptive management approach will be implemented as part of this plan. Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational procedures. If operational procedures are not meeting management goals, methods are adjusted until the goals are achieved. Adaptive management will consist of the following key elements:

- 1. Establish Management Goals.** It is imperative to establish clear and measurable goals before embarking on a restoration program. Careful consideration will be given to which vegetation type or plant species will be installed based on hydrologic, hydraulic, and topographical data. The ultimate goal of a restoration program will be to further the preservation of a species assemblage, vegetative type, or functioning ecosystem.
- 2. Identify and Prioritize Species that Interfere with Management Goals.** The areas surrounding the project area have been surveyed as part of the preparation of this document. In many cases, it was immediately clear which weed species posed the

biggest threat to the native plant habitats. For other species, the immediate threat was not clear, and observation over an extended period will help to identify if those species pose a threat to the native plant communities being restored. Section 6.2.1 of this plan identifies the highest priority species for control within the project area.

3. **Assess Techniques.** All options for control of a particular invasive weed species will be considered. Each method will have advantages and disadvantages, and often the best approach is using a combination of management strategies. Furthermore, it is important to remain current on control methods, as new methodologies are constantly being developed, especially in the field of chemical control.
4. **Develop and Implement a Management Plan.** This document will supply the framework and background necessary for implementing management programs for vegetation and habitat type restoration throughout the project area.
5. **Review Management Goals, Restoration Methods, and Control Techniques.** Another crucial step in adaptive management is to examine and appraise the restoration methods that are currently in use. If portions of the mitigation areas are not responsive to planting one particular plant species because of differing hydrologic requirements or if natural recruitment into an area is not progressing at the expected rate, then planting alternate appropriate native plant species will be considered. Careful attention will be paid to weed species being controlled, then it will be verified whether the control techniques are working towards reaching the specified goals, and determined whether alternate control methods will be used or if weed management actions will focus on an alternate species that has subsequently become problematic.

## 6.0 Maintenance and Monitoring Program

The maintenance and monitoring program is designed to support the establishment of native habitat by performing erosion control measures, non-native weed removal, protection from unauthorized access, pests, and vandalism, trash and debris removal, irrigation system maintenance, remedial planting, and reseeded if necessary. Additionally, the biological monitor will establish an information base to document the maintenance and monitoring efforts. To achieve these objectives, the project biologist will observe and direct implementation, maintenance, and monitoring activities.

### 6.1 Schedule

The maintenance and monitoring of the project will occur according to the schedule described in Table 4.

Table 4 Maintenance and Monitoring Schedule						
Type/Task	PEP <sup>1</sup>	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Maintenance</b>						
Weed control	Monthly or as needed	Quarterly or as needed	Quarterly	Quarterly	Quarterly	Once <sup>1</sup>
Horticultural treatment	As needed	As needed	As needed	As needed	--	--
Erosion control	As needed					
Trash removal	Monthly or as needed	Quarterly or as needed	Quarterly	Quarterly	Quarterly	Quarterly
Replacement planting and seeding	As needed	Fall	Fall	--	--	--
Site protection and Signage	As needed	As needed	As needed	As needed	As needed	As needed
Pest management	--	--	--	--	--	--
Management of Vandalism	As needed	As needed	As needed	As needed	As needed	As needed
Irrigation maintenance <sup>2</sup>	As needed	As needed	As needed	--	--	--
<b>Monitoring</b>						
Qualitative	Bi-weekly for first month; monthly thereafter	Monthly for first 3 months; quarterly thereafter	Quarterly	Quarterly	Quarterly	Quarterly
Quantitative	--	Once <sup>3</sup>	Once <sup>3</sup>	Once <sup>3</sup>	Once <sup>3</sup>	Once <sup>3</sup>
NOTE: Schedule is approximate. <sup>1</sup> PEP = plant establishment period. <sup>2</sup> Irrigation will be directed by the project biologist and maintained by the City. <sup>3</sup> Once during spring season.						

## 6.2 120-day Plant Establishment Period

A 120-day plant establishment period (PEP) will commence upon planting of the final container plants. The 120-day PEP will be identical for the restoration and revegetation areas. During this period, the project biologist will monitor weekly for the first month, and biweekly for the remainder of the PEP (Table 4). Maintenance will occur monthly or as-needed at the direction of the project biologist. Throughout the PEP, the maintenance crew shall control emerging weed seedlings, replace dead plants, and remove any trash.

To ensure that conditions of this plan are adhered to, all implementation activities will be monitored and recorded by the project biologist. The project biologist will be available on-site during implementation to assist in making necessary plan modifications so that the work may proceed. Records kept will include dates of planting and seeding and any significant problems encountered or necessary changes.

The 120-day PEP letter will be submitted to the City and to the applicable jurisdictions. Upon submittal of the 120-day PEP letter, the project will transition to Year 1 of the maintenance and monitoring period.

### 6.2.1 Weed Control

Weed control will be accomplished through a combination of hand or mechanical removal and herbicide treatments and will be performed by trained maintenance workers under the supervision of the project biologist.

In general, native grasslands, including those in the project vicinity, contain a high proportion of non-native grasses and forbs, which often exceed the natives in overall cover (Holland 1996). Therefore, 25 percent cover by non-native annual species will be permitted during the PEP. Such moderate tolerance for non-native species will also serve to protect sensitive native grasses and small native annuals from herbicide overspray and soil disturbance from manual weed removal.

While some cover by non-native annual species may be allowed to remain to prevent unintended damage to the site, non-native perennial species and other particular non-native invasive plant species will be targeted for removal whenever observed. These include invasive plant species as defined by the California Invasive Plant Council (Cal-IPC) database (Cal-IPC 2016), as well as several species recommended for removal by City staff (City of San Diego 2016). Table 5 summarizes invasive plant species known from the survey area that should be targeted for weed treatment within the restoration and revegetation areas whenever observed. In the event that additional non-native invasive species or non-native perennial species are encountered, the project biologist shall refine control measures to include them.

Scientific Name	Common Name
<i>Acacia cyclops</i>	western coastal wattle
<i>Acacia redolens</i>	vanilla-scented wattle
<i>Atriplex semibaccata</i>	Australian saltbush
<i>Avena</i> spp.	wild oats
<i>Brachypodium distachyon</i>	purple falsebrome
<i>Brassica nigra</i>	black mustard
<i>Bromus diandrus</i>	riggut grass
<i>Bromus hordeaceus</i>	soft chess
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Centaurea melitensis</i>	tocalote
<i>Delosperma</i> sp.	iceplant
<i>Dittrichia graveolens</i>	stinkwort
<i>Festuca myuros</i>	rattail sixweeks grass
<i>Foeniculum vulgare</i>	fennel
<i>Glebionis coronaria</i>	garland daisy
<i>Helminthotheca echioides</i>	bristly ox-tongue
<i>Hirschfeldia incana</i>	short-pod mustard
<i>Marrubium vulgare</i>	horehound
<i>Mesembryanthemum nodiflorum</i>	slender-leaved ice plant
<i>Raphanus sativus</i>	radish
<i>Rumex crispus</i>	curly dock
<i>Salsola tragus</i>	Russian thistle
<i>Schinus terebinthifolius</i>	Brazilian pepper tree
<i>Schismus barbatus</i>	Mediterranean schismus
<i>Sisymbrium irio</i>	London rocket
<i>Stipa miliacea</i>	smilo grass

This weed control program will allow for control of non-native grass cover, while allowing for development of native species and still maintaining a habitat quality similar to that of the reference site.

## **6.2.2 Erosion Control**

If erosion control measures, such as straw wattles, are determined necessary by the project biologist, they will be installed by the maintenance crew during regular maintenance visits. Similarly, if the project biologist determines that any installed erosion control devices are in need of repair or replacement, the necessary remedial work will be conducted by the landscape contractor during regular maintenance visits.

## **6.2.3 Trash Removal**

Trash and other debris have the potential to be blown into the site from the surrounding area or dropped by pedestrians accessing the area without authorization. All such materials will be removed by hand during regular maintenance visits.

## **6.2.4 Replacement Planting and Reseeding**

Some of the installed vegetation may be damaged by herbivory or disease. In such cases, the project biologist will note the number and species of plants to be replaced, and will direct the landscape contractor to install supplemental plants during regular maintenance visits.

In the case that seed in some areas fails to germinate or other damage occurs to the site, supplemental seeding will occur at the direction of the project biologist and with the approval of the City Engineering & Capital Projects Department.

## **6.2.5 Site Protection and Signage**

Temporary fencing and informational signage will be installed along the southern edge of the restoration and revegetation areas where they are adjacent to the multi-family residential complex. Fencing and signage may also be installed along the northern edge of the revegetation area adjacent to Nobel Drive. The final decision on fencing in this area will be at the discretion of the project biologist. The project biologist will monitor the condition of any fencing and signage to determine if additional fencing or signage is required. Such repairs or additional material installation will be implemented during regular maintenance visits.

## **6.2.6 Management of Vandalism**

Remedial measures to repair damage caused by vandalism, if any, will be implemented during regular maintenance visits at the direction of the project biologist and with the authorization of the City Engineering & Capital Projects Department.

## 6.2.7 Irrigation Maintenance

The project biologist will monitor the condition and effectiveness of the irrigation system. If the irrigation system becomes damaged or if additional irrigation lines are required, the project biologist will recommend remedial measures to be implemented by the landscape contractor during regular maintenance visits.

## 6.2.8 PEP Reporting

A monitoring report shall be prepared to document the completion of the 120-day PEP. The report shall include discussion on weed control, horticultural treatments (pruning, mulching, and disease control), erosion control, trash/debris removal, replacement planting/reseeding, site protection/signage, pest management, vandalism, and irrigation maintenance.

## 6.3 Maintenance Period

Following successful completion of the PEP, the project will begin a maintenance period. Because the restoration area is designed to mitigate project impacts, the overall purpose and requirements for this area differs from those for the revegetation area. As such, the maintenance period for the restoration area will be five years, whereas that for the revegetation area will be 25 months.

### 6.3.1 Restoration Area

The five-year maintenance period will begin upon submittal of the 120-day PEP letter. Maintenance within the restoration area will be conducted quarterly or as directed by the project biologist. Maintenance measures during the five-year maintenance period will be the same as those described for the 120-day PEP.

During the first four months of Year 1, maintenance in the restoration area will be conducted at a minimum of two times, at least one month apart. During the remainder of the five-year maintenance period, maintenance will occur quarterly (or as determined by the project biologist) to keep weeds from producing seeds and to control weed competition during the establishment period of native plants.

### 6.3.2 Revegetation Area

The 25-month maintenance period for the revegetation area will begin upon submittal of the 120-day PEP letter and may be extended at the determination of the City's Mitigation Monitoring Coordination (MMC) section. Maintenance measures during the 25-month maintenance period will be the same as those described for the 120-day PEP.

During the first four months of Year 1, the revegetation area will be weeded at a minimum of two times, at least one month apart. During the remainder of the 25-month maintenance

period, maintenance will be conducted quarterly or as needed at the direction of the project biologist.

## **6.4 Monitoring and Reporting**

### **6.4.1 Qualitative Monitoring**

#### **Restoration Area**

The project biologist will conduct monthly qualitative monitoring in the restoration area for the first three months, then quarterly monitoring for the remainder of the five-year maintenance period (see Table 4). Qualitative monitoring will focus on soil conditions (e.g., moisture and fertility), container plant health, seed germination, and native species recruitment, as well as the factors discussed in Section 6.2 above (weed control, erosion control, trash removal, replacement planting and reseeded, site protection and signage, vandalism, and irrigation maintenance).

Site maintenance needs will be communicated to the landscape contractor for scheduling and implementation. In addition, the project biologist will note evidence of wildlife use as described in the City's Guidelines for Conducting Biological Surveys (City of San Diego 2002).

Three photo points will be established in the restoration area (one in the creation area and two in the restoration area) and one photo point will be established in the reference site. As discussed in the section below, a fifth photo point will be established in the revegetation area. The photo points will record the progress of the restoration effort over the monitoring period. Photographs will be taken at each photo point during annual quantitative monitoring.

The photographs and survey results will be summarized and reported to the City in the annual monitoring reports.

#### **Revegetation Area**

The project biologist will conduct monthly qualitative monitoring in the revegetation area for the first three months, then quarterly monitoring for the remainder of the 25-month maintenance period (see Table 4). Qualitative monitoring will be identical to that for the restoration area, and will focus on soil conditions (e.g., moisture and fertility), container plant health, seed germination, and native species recruitment, as well as the factors discussed in Section 6.2 (weed control, erosion control, trash removal, replacement planting and reseeded, site protection and signage, management of vandalism, and irrigation maintenance).

Site maintenance needs will be communicated to the landscape contractor for scheduling and implementation. In addition, the project biologist will note evidence of wildlife use as

described in the City's Guidelines for Conducting Biological Surveys (City of San Diego 2002).

In addition to the photo points established for the restoration areas and reference site, two photo points will be established within the revegetation area (one in the northern revegetation area, and one in the area of ornamental plantings in the south) to record the revegetation progress. A photograph will be taken at the photo point during each qualitative monitoring visit and incorporated into regular site observation reports.

## **6.4.2 Quantitative Monitoring**

Annual quantitative monitoring will be conducted for the restoration and revegetation area to verify the sites are progressing relative to quantitative performance standards (see Section 6.5).

### **Restoration Area**

The project biologist will conduct annual quantitative monitoring in the restoration area starting at the end of Year 1 and continuing through the end of Year 5 or project sign-off. Monitoring will occur using the relevé vegetation sampling technique to quantitatively monitor vegetation within the creation area, restoration area, and reference site (the patch of existing valley needlegrass grassland located between the restoration and creation areas), following the CNPS methodology (2009). The relevé method allows biologists to visually estimate plant cover and works particularly well in irregularly shaped areas.

### **Revegetation Area**

Annual monitoring will occur within the revegetation area at the end of Years 1 and 2. Similarly to monitoring in the restoration area, that in the revegetation area will occur using the relevé vegetation sampling technique to quantitatively monitor vegetation following the CNPS methodology (2009).

## **6.4.3 Reporting**

At the end of the PEP, a letter report summarizing the maintenance activities and monitoring results will be submitted to the City. Upon submittal of this 120-day PEP letter, the project will transition into Year 1 of the maintenance and monitoring period.

### **Restoration Area**

Following each qualitative monitoring visit for the restoration site, a site observation report will be prepared and submitted to the City. The site observation reports shall review maintenance activities, qualitative monitoring results and the need for any remedial measures.

At the end of each monitoring year, an annual monitoring report will be submitted to the City summarizing the previous year. Each annual monitoring report will discuss the results and analysis of the quantitative monitoring survey and will include photographs taken at established photo points. Additionally, any remedial maintenance actions taken during the year will be discussed. Each report will compare findings of the current conditions with those in previous reports. Following the fifth year, a final monitoring report will be prepared that evaluates the quantitative monitoring results relative to success criteria, and, if warranted, requests final acceptance of the restoration effort.

## **Revegetation Area**

Following each qualitative monitoring visit for the revegetation area, a site observation report will be prepared and submitted to the City. The site observation reports shall review maintenance activities, qualitative monitoring results and the need for any remedial measures.

At the end of each monitoring year, an annual monitoring report will be submitted to the City summarizing the previous year. Each annual monitoring report will discuss the results and analysis of the quantitative monitoring survey and will include photographs taken at established photo points. Additionally, any remedial maintenance actions taken during the year will be discussed. Each report will compare findings of the current conditions with those in previous reports. Following the fifth year, a final monitoring report will be prepared that evaluates the quantitative monitoring results relative to success criteria, and, if warranted, requests final acceptance of the restoration effort.

### **6.4.4 Maintenance**

The maintenance period (five years for the restoration area and 25 months for the revegetation area) will begin upon submittal of the 120-day PEP letter. Maintenance in both areas will be conducted quarterly or as directed by the project biologist. Maintenance measures during the maintenance period will be the same as those described in Section 6.2 for the 120-day PEP.

## **6.5 Performance Standards**

### **6.5.1 Restoration Area**

Restoration will be considered complete when the performance standards shown in Table 6 have been met. If these standards have not been met, the maintenance period may be extended at the determination of MMC. If performance standards are not met following any annual milestone, remediation measures described in Section 7.0 will be implemented.

**Table 6**  
**Performance Standards – Restoration Area**

Milestone	Native Cover <sup>1</sup> (Trees, Shrubs, and Herbs)	Non-native Cover <sup>2</sup> (not to exceed)	Other
Year 1	No Quantitative Goals	25% Annual Species 0% Invasive Species	100% survival of container plants Erosion control measures in place and functional
Year 2	30%	25% Annual Species 0% Invasive Species	80% survival of container plants Erosion control measures in place and functional
Year 3	50%	25% Annual Species 0% Invasive Species	Erosion control measures in place and functional
Year 4	65%	20% Annual Species 0% Invasive Species	Erosion control measures in place and functional or removed
Year 5	75–100%	20% Annual Species 0% Invasive Species	Erosion control measures removed

<sup>1</sup>As a relative percentage of the reference site.  
<sup>2</sup>Absolute value.

### 6.5.2 Revegetation Area

Revegetation will be considered complete at the end of 25 months, if the performance standards shown in Table 7 have been met. If these standards have not been met, the maintenance period may be extended at the determination of MMC. If performance standards are not met following any annual milestone, remediation measures described in Section 7.0 will be implemented.

**Table 7**  
**Performance Standards – Revegetation Area**

Milestone	Native Cover (Trees, Shrubs, and Herbs)	Non-native Cover (not to exceed)	Other
Year 1 (Months 1–12)	No Quantitative Goals	25% Total Cover 0% Invasive Species	100% survival of container plants Erosion control measures in place and functional
Year 2 (Months 13–25)	30% total native cover	25% Total Cover 0% Invasive Species	80% survival of container plants Erosion control measures in place and functional (or removed)

## 7.0 Remediation Measures

If the minimum levels for any one of these performance standards are not achieved within either the restoration area or the revegetation (see Tables 6 and 7, respectively), the project biologist will recommend remedial actions (such as replanting and/or seeding) to reach the following year’s required levels. If, at the end of the maintenance period (five years for the restoration area; 25 months for the revegetation area), a site fails to meet the standards, the monitoring and maintenance period may be extended and a specific set of remedial measures may be implemented per the direction of the biologist in coordination with the MMC. Only areas that fail to meet the success standards shall require additional work and/or additional remedial measures. This process will continue, until the final standards are met or until MMC determines that other measures are appropriate.

## 8.0 Completion of Mitigation Notification

### 8.1 Restoration Area

When the performance standards for the restoration area have been met, or other remedial measures agreed upon by the project biologist and MMC have been completed and approved, a Notice of Completion of Mitigation will be issued by MMC to the Landscape Contractor to signify the completion of the Landscape Contractor's responsibility for the project.

### 8.2 Revegetation Area

When the 25-month performance standards for the revegetation area have been met, or other remedial measures agreed upon by the project biologist and MMC have been completed and approved, a Notice of Completion will be issued by MMC to the Landscape Contractor to signify completion of the Landscape Contractor's responsibility for the project.

## 9.0 References Cited

### California Invasive Plant Council

- 2016 California Invasive Plant Inventory Database. at: <http://www.cal-ipc.org/paf/> [Accessed August 3].

### California Native Plant Society (CNPS)

- 2015 *Inventory of Rare and Endangered Plants of California* (online edition, v8-02). Sacramento, CA. Website <http://www.rareplants.cnps.org> [accessed November 2015]
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### RECON Environmental, Inc.

- 2016 Biological Survey Report for the North University City Fire Station 50 Project. December.

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- 1997 City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan. March.
- 2002 Guidelines for Conducting Biology Surveys. Attachment III, General Outline for Revegetation/Restoration Plans. July.
- 2004 San Diego Municipal Code, Land Development Code, Landscape Standards Manual. August.

- 2011 California Environmental Quality Act Significance Determination Thresholds. January.
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- 2016 Personal communication between Holly Smit-Kicklighter/City of San Diego and Brian Parker/RECON. July 28.

U.S. Department of Agriculture (USDA)

- 1973 *Soil Survey, San Diego Area, California*. Edited by Roy H. Bowman. Soil Conservation Service and Forest Service. December.

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## **ATTACHMENT 1**

### **City of San Diego Biological Impacts & Monitoring Mitigation Monitoring and Reporting Program Conditions**

## **BIOLOGICAL IMPACTS & MONITORING MMRP CONDITIONS:**

To ensure that site development would avoid significant environmental impacts, a Mitigation, Monitoring, and Reporting Program (MMRP) is required. Compliance with the mitigation measures shall be the responsibility of the applicant. The mitigation measures are described below.

Prior to the issuance of a Notice to Proceed (NTP) or any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits the Assistant Deputy Director (ADD) environmental designee of the City's Land Development Review Division (LDR) shall verify that the following statement is shown on the grading and/or construction plans as a note under the heading *Environmental Requirements*: "*PTS 463835 – North University City Fire Station Project- SDP is subject to Mitigation, Monitoring and Reporting Program and shall conform to the mitigation conditions as contained in the Mitigated Negative Declaration/463835*".

### **Biological Resources**

Prior to the issuance of a Notice to Proceed (NTP) or any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits the ADD environmental designee of the City's LDR Division shall incorporate the following mitigation measures into the project design and include them verbatim on all appropriate construction documents.

#### **Prior to Permit Issuance**

- A. Land Development Review (LDR) Plan Check
  1. Prior to NTP or issuance for any construction permits, including but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits, whichever is applicable, the ADD environmental designee shall verify that the requirements for the restoration plans and specifications, including mitigation of direct and cumulative impacts to 0.12 acre of valley needlegrass grassland with restoration of 0.367 acre of native grassland have been shown and noted on the appropriate landscape construction documents. The landscape construction documents and specifications must be found to be in conformance with this report.
- B. Restoration Plan(s) and Specifications
  1. Landscape Construction Documents (LCD) shall be prepared on D-sheets and submitted to the City of San Diego Development Services Department, Landscape Architecture Section (LAS) for review and approval. LAS shall consult with Mitigation Monitoring Coordination (MMC) and obtain concurrence prior to approval of LCD. The LCD shall consist of restoration, planting, irrigation and erosion control plans; including all required graphics, notes, details, specifications, letters, and reports as outlined below.
  2. Landscape Restoration Planting and Irrigation Plans shall be prepared in accordance with the San Diego Land Development Code (LDC) Chapter 14, Article 2, Division 4, the LDC Landscape Standards submittal requirements, and Attachment "B" (General Outline for Restoration Plans) of the City of San Diego's LDC Biology Guidelines (July 2002). The Principal Qualified Biologist (PQB) shall identify and adequately document all pertinent information

concerning the restoration goals and requirements, such as but not limited to, plant/seed palettes, timing of installation, plant installation specifications, method of watering, protection of adjacent habitat, erosion and sediment control, performance/success criteria, inspection schedule by City staff, document submittals, reporting schedule, ect. The LCD shall also include comprehensive graphics and notes addressing the ongoing maintenance requirements (after final acceptance by the City).

3. The Restoration Installation Contractor (RIC), Restoration Maintenance Contractor (RMC), Construction Manager (CM) and Grading Contractor (GC), where applicable shall be responsible to insure that for all grading and contouring, clearing and grubbing, installation of plant materials, and any necessary maintenance activities or remedial actions required during installation and the 120 day plant establishment period are done per approved LCD. The following procedures at a minimum, but not limited to, shall be performed:
  - a. The RMC shall be responsible for the maintenance of the creation and restoration area for a minimum period of 120 days (the 120-day PEP). Maintenance visits shall be conducted monthly or as directed by the Qualified Biological Monitor (QBM) (City approved) throughout the plant establishment period.
  - b. At the end of the 120 day period the PQB shall review the mitigation area to assess the completion of the short-term plant establishment period and submit a report for approval by MMC.
  - c. MMC will provide approval in writing to begin the five year long-term establishment/maintenance and monitoring program.
  - d. Existing indigenous/native species shall not be pruned, thinned or cleared in the restoration/mitigation area.
  - e. The restoration site shall not be fertilized.
  - f. The RIC is responsible for reseeded (if applicable) if weeds are not removed, within one week of written recommendation by the PQB.
  - g. Weed control measures shall include the following: (1) hand removal, (2) cutting, with power equipment, and (3) chemical control. Hand removal of weeds is the most desirable method of control and will be used where feasible and possible without causing unnecessary damage to native plants in the restoration area.
  - h. Damaged areas shall be repaired immediately by the RIC/RMC. Insect infestations, plant diseases, herbivory, and other pest problems will be closely monitored throughout the five-year maintenance period. Protective mechanisms such as metal wire netting shall be used as necessary. Diseased and infected plants shall be immediately disposed of off site in a legally-acceptable manner at the discretion of the PQB or QBM. Where possible, biological controls will be used instead of pesticides and herbicides.

C. Letters of Qualification Have Been Submitted to ADD

1. The applicant shall submit, for approval, a letter verifying the qualifications of the biological professional to MMC. This letter shall identify the PQB, Principal Restoration Specialist (PRS), and QBM, where applicable, and the names of all other persons involved in the implementation of the restoration plan and biological monitoring program, as they are defined in the City of San Diego Biological

Review References. Resumes and the biology worksheet should be updated annually.

2. MMC will provide a letter to the applicant confirming the qualifications of the PQB/PRS/QBM and all City Approved persons involved in the restoration plan and biological monitoring of the project.
3. Prior to the start of work, the applicant must obtain approval from MMC for any personnel changes associated with the restoration plan and biological monitoring of the project.

### **Prior to Start of Construction**

#### **A. PQB/PRS Shall Attend Preconstruction (Precon) Meetings**

1. Prior to beginning any work that requires monitoring:
  - a. The owner/permittee or their authorized representative shall arrange and perform a Precon Meeting that shall include the PQB or PRS, Construction Manager (CM) and/or Grading Contractor (GC), Landscape Architect (LA), Restoration Installation Contractor (RIC), Restoration Maintenance Contractor (RMC), Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC.
  - b. The PQB shall also attend any other grading/excavation related Precon Meetings to make comments and/or suggestions concerning the restoration plan(s) and specifications with the RIC, CM and/or GC.
  - c. If the PQB is unable to attend the Precon Meeting, the owner shall schedule a focused Precon Meeting with MMC, PQB/PRS, CM, BI, LA, RIC, RMC, RE and/or BI, if appropriate, prior to the start of any work associated with the restoration phase of the project, including site grading preparation.
2. Where Restoration Work Will Occur
  - a. Prior to the start of any work, the PQB/PRS shall also submit a restoration monitoring exhibit (RRME) based on the appropriate reduced LCD (reduced to 11"x 17" format) to MMC, and the RE, identifying the areas to be restored including the delineation of the limits of any disturbance/grading and any excavation.
  - b. PQB shall coordinate with the construction superintendent to identify appropriate Best Management Practices (BMP's) on the RRME.
3. When Biological Monitoring Will Occur
  - a. Prior to the start of any work, the PQB/PRS shall also submit a monitoring procedures schedule to MMC and the RE indicating when and where biological monitoring and related activities will occur.
4. PQB Shall Contact MMC to Request Modification
  - a. The PQB may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the restoration plans and specifications. This request shall be based on relevant information (such as other sensitive species not listed by federal and/or state agencies and/or not covered by the MSCP and to which any impacts may be considered significant under CEQA) which may reduce or increase the potential for biological resources to be present.

### **During Construction**

#### **A. PQB or QBM Present During Construction/Grading/Planting**

1. The PQB or QBM shall be present full-time during construction activities including but not limited to, site preparation, cleaning, grading, excavation, landscape establishment in association with the project, which could result in impacts to sensitive biological resources as identified in the LCD and on the RRME. **The RIC and/or QBM are responsible for notifying the PQB/PRS of changes to any approved construction plans, procedures, and/or activities. The PQB/PRS is responsible to notify the CM, LA, RE, BI and MMC of the changes.**
2. The PQB or QBM shall document field activity via the Consultant Site Visit Record Forms (CSV). The CSV's shall be faxed by the CM the first day of monitoring, the last day of monitoring, monthly, and in the event that there is a deviation from conditions identified within the LCD and/or biological monitoring program. The RE shall forward copies to MMC.
3. The PQB or QBM shall be responsible for maintaining and submitting the CSV at the time that CM responsibilities end (i.e., upon the completion of construction activity other than that of associated with biology).
4. All construction activities (including staging areas) shall be restricted to the development areas as shown on the LCD. The PQB/PRS or QBM staff shall monitor construction activities as needed, with MMC concurrence on method and schedule. This is to ensure that construction activities do not encroach into biologically sensitive areas beyond the limits of disturbance as shown on the approved LCD.
5. The PQB or QBM shall supervise the placement of orange construction fencing or City approved equivalent, along the limits of potential disturbance at the edge of the project footprint to protect sensitive vegetation communities in the surrounding area, including southern willow scrub, valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland, as shown on the approved LCD.
6. The PBQ shall provide a letter to MMC that limits of potential disturbance has been surveyed, staked and that the construction fencing is installed properly
7. The PQB or QBM shall oversee implementation of BMP's, such as gravel bags, straw logs, silt fences or equivalent erosion control measures, as needed to ensure prevention of any significant sediment transport. In addition, the PQB/QBM shall be responsible to verify the removal of all temporary construction BMP's upon completion of construction activities. Removal of temporary construction BMP's shall be verified in writing on the final construction phase CSV.
8. PQB shall verify in writing on the CSV's that no trash stockpiling or oil dumping, fueling of equipment, storage of hazardous wastes or construction equipment/material, parking or other construction related activities shall occur adjacent to sensitive habitat. These activities shall occur only within the designated staging area located outside the area defined as biological sensitive area.
9. The long-term establishment inspection and reporting schedule per LCD must all be approved by MMC prior to the issuance of the Notice of Completion (NOC) or any bond release.

**B. Disturbance/Discovery Notification Process**

1. If unauthorized disturbances occurs or sensitive biological resources are discovered that were not previously identified on the LCD and/or RRME, the PQB or QBM shall direct the contractor to temporarily divert construction in the area of disturbance or discovery and immediately notify the RE or BI, as appropriate.
2. The PQB shall also immediately notify MMC by telephone of the disturbance and report the nature and extent of the disturbance and recommend the method of additional protection, such as fencing and appropriate Best Management Practices (BMP's). After obtaining concurrence with MMC and the RE, PQB and CM shall install the approved protection and agreement on BMP's.
3. The PQB shall also submit written documentation of the disturbance to MMC within 24 hours by fax or email with photos of the resource in context (e.g., show adjacent vegetation).

**C. Determination of Significance**

1. The PQB shall evaluate the significance of disturbance and/or discovered biological resource and provide a detailed analysis and recommendation in a letter report with the appropriate photo documentation to MMC to obtain concurrence and formulate a plan of action which can include fines, fees, and supplemental mitigation costs.
2. MMC shall review this letter report and provide the RE with MMC's recommendations and procedures.

**Post Construction**

**A. Mitigation Monitoring and Reporting Period**

1. PEP and Five-Year Maintenance Period
  - a. The RMC shall be retained to complete maintenance monitoring activities throughout the PEP and five-year mitigation monitoring period.
  - b. Maintenance visits will be conducted monthly throughout the PEP, quarterly for the first year, and, and quarterly thereafter.
  - c. Maintenance activities will include all items described in the LCD.
  - d. Plant replacement will be conducted as recommended by the PQB (note: plants shall be increased in container size relative to the time of initial installation or establishment or maintenance period may be extended to the satisfaction of MMC).
2. Five-Year Biological Monitoring
  - a. All biological monitoring and reporting shall be conducted by a PQB or QBM, as appropriate, consistent with the LCD.
  - b. Monitoring shall involve both qualitative horticultural monitoring and quantitative monitoring (i.e., success criteria). Horticultural monitoring shall focus on soil conditions (e.g., moisture and fertility), container plant health, seed germination rates, presence of native and non-native (e.g., invasive exotic) species, any significant disease or pest problems, irrigation repair and scheduling, trash removal, illegal trespass, and any erosion problems.
  - c. After plant installation is complete, qualitative monitoring surveys will occur bi-weekly for the first month of the PEP, monthly for the remainder of

the PEP and first three months of Maintenance and Monitoring, and quarterly thereafter.

- d. Upon the completion of the 120-days short-term plant establishment period, quantitative monitoring surveys shall be conducted at 0, 12, 24, 36, 48 and 60 months by the PQB or QBM, to determine compliance with the performance standards identified on the LCD. All plant material must have survived without supplemental irrigation for the last two years.
- e. Quantitative monitoring shall include the use of fixed transects or releve methods and photo points to determine the vegetative cover within the restored habitat. Collection of transect or releve data within the restoration site shall result in the calculation of percent cover or cover class for each plant species present, percent cover of native grassland, and percent cover of non-native/non invasive vegetation. During the PEP, container plants will also be counted to determine percent survivorship. The data will be used to determine attainment of performance/success criteria identified within the LCD.
- f. Biological monitoring requirements may be reduced if, before the end of the fifth year, the restoration meets the fifth year criteria and the irrigation has been terminated for a period of at least two years.
- g. The PQB or QBM shall oversee implementation of post-construction BMPs, such as gravel bags, straw logs, silt fences or equivalent erosion control measures, as needed to prevent significant sediment transport. In addition, the PQB/QBM shall be responsible to verify the removal of all temporary post-construction BMP's upon completion of construction activities. Removal of temporary post-construction BMPs shall be verified in writing on the final post-construction phase CSV.

#### C. Submittal of Draft Monitoring Report

1. A draft monitoring report shall be prepared to document the completion of the 120-day plant establishment period. The report shall include discussion on weed control, horticultural treatments (pruning, mulching, and disease control), erosion control, trash/debris removal, replacement planting/reseeding, site protection/signage, pest management, vandalism, and irrigation maintenance. The restoration effort shall be visually assessed at the end of 120 day period to determine mortality of individuals.
2. The PQB shall submit two copies of the draft monitoring report which describes the results, analysis, and conclusions of all phases of the Biological Monitoring and Reporting Program (with appropriate graphics) to MMC for review and approval within 30 days following the completion of monitoring. Monitoring reports shall be prepared on an annual basis for a period of five years. Site observation reports (SORs) shall be prepared by the PQB following each site visit and provided to the owner, RMC and RIC. SORs shall review maintenance activities, qualitative and quantitative (when appropriate) monitoring results including progress of the restoration relative to the performance/success criteria, and the need for any remedial measures.
3. Draft annual reports (three copies) summarizing the results of each progress report including quantitative monitoring results and photographs taken from permanent viewpoints shall be submitted to MMC for review and approval within 30 days following the completion of monitoring.

4. MMC shall return the Draft Monitoring Report to the PQB for revision or, for preparation of each report.
  5. The PQB shall submit revised Monitoring Report to MMC (with a copy to RE) for approval within 30 days.
  6. MMC will provide written acceptance of the PQB and RE of the approved report.
- D. Final Monitoring Reports(s)
1. PQB shall prepare a final monitoring report upon achievement of the fifth year success criteria and completion of the five year maintenance period.
    - a. This report may occur before the end of the fifth year if the restoration meets the fifth year success criteria and the irrigation has been terminated for a period of the last two years.
    - b. The final monitoring report shall be submitted to MMC for evaluation of the success of the mitigation effort and final acceptance. A request for a pre-final inspection shall be submitted at this time, MMC will schedule after review of report.
    - c. If at the end of the five years any of the restored area fails to meet the project's final success standards, the applicant must consult with MMC. This consultation shall take place to determine whether the restoration effort is acceptable. The applicant understands that failure of any significant portion of the restoration area may result in a requirement to replace or renegotiate that portion of the site and/or extend the monitoring and establishment/maintenance period until all success standards are met.

**EXHIBIT G**  
**NOISE ANALYSIS**



**Noise Analysis for the  
North University City  
Fire Station 50 Project,  
San Diego, California**

Prepared for  
Mr. Jasiah Neff  
City of San Diego  
Engineering & Capital Projects  
525 B Street, Suite 750  
San Diego, CA 92101

*Prepared by*  
RECON Environmental, Inc.  
1927 Fifth Avenue  
San Diego, CA 92101  
P 619.308.9333

RECON Number 7617  
February 22, 2017

A handwritten signature in black ink that reads "Jack Emerson".

Prepared by  
Jack T. Emerson, Noise Analyst

A handwritten signature in black ink that reads "William A. Maddux".

Reviewed and Approved by  
William Maddux, Senior Technical Specialist

# TABLE OF CONTENTS

<b>Acronyms .....</b>	<b>iii</b>
<b>Executive Summary.....</b>	<b>1</b>
<b>1.0 Introduction .....</b>	<b>3</b>
1.1 Project Description.....	3
1.2 Fundamentals of Noise .....	7
<b>2.0 Existing Conditions.....</b>	<b>8</b>
2.1 Adjacent Land Uses .....	8
2.2 Site Measurements .....	9
<b>3.0 Applicable Standards .....</b>	<b>10</b>
3.1 Noise Ordinance.....	10
3.2 Noise Compatibility Standards .....	11
3.3 Emergency Vehicle Standards .....	14
<b>4.0 Analysis Methodology.....</b>	<b>15</b>
4.1 Traffic Noise .....	15
4.2 Aircraft Noise .....	17
4.3 On-site Noise Sources .....	17
4.4 Construction.....	19
<b>5.0 Acoustical Environment and Impacts .....</b>	<b>21</b>
5.1 Traffic Noise .....	21
5.2 Aircraft Noise .....	25
5.3 On-site Generated Noise.....	25
5.4 Construction Noise.....	27
<b>6.0 Conclusions.....</b>	<b>29</b>
6.1 Traffic Noise .....	29
6.2 Aircraft Noise .....	29
6.3 On-site Generated Noise.....	30
6.4 Construction Noise.....	30
<b>7.0 References Cited.....</b>	<b>31</b>

## TABLE OF CONTENTS (cont.)

### FIGURES

1:	Regional Location of the North University City Fire Station 50 Project.....	4
2:	Project Location on Aerial Photograph.....	5
3:	Site Plan.....	6
4:	MCAS Miramar Noise Contours.....	18
5:	Traffic Noise Contours.....	22
6:	Mechanical Equipment Noise Contours.....	26
7:	Construction Noise Contours.....	28

### TABLES

1:	15-minute Traffic Counts of Nobel Drive.....	9
2:	Applicable Noise Level Limits.....	10
3:	City of San Diego – Land Use – Noise Compatibility Guidelines.....	12
4:	MCAS ALUCP – Noise Compatibility Policies.....	13
5:	Minimum Siren Noise Levels.....	15
6:	Traffic Parameters.....	16
7:	Typical Maximum Construction Equipment Noise Levels.....	20
8:	Traffic Noise Levels.....	21
9:	Existing and Existing Plus Project Traffic Noise Level Increase.....	24
10:	Generator Noise Levels.....	27
11:	Construction Noise Levels.....	27

### ATTACHMENTS

1:	Noise Measurements
2:	HVAC Unit Specifications
3:	Standby Generator Specifications
4:	Noise Calculations and SoundPLAN Data

# Acronyms

ADT	average daily trips
AIA	airport impact zone
ALUCP	Airport Land Use Compatibility Plan
CCR	California Code of Regulations
City	City of San Diego
CNEL	community noise equivalent level
dB	decibel
dB(A)	A-weighted decibels
FHWA	Federal Highway Administration
HVAC	heating, ventilation, and air conditioning
ISO	International Standards Organization
ISO	International Standards Organization
kVA	kilovolt-amps
kW	kiloWatts
$L_{eq}$	one-hour equivalent noise level
$L_{eq(12)}$	12-hour equivalent noise level
$L_{max}$	maximum instantaneous noise level
$L_{pw}$	sound power level
MCAS	Marine Corps Air Station
MHPA	Multi-Habitat Planning Area
mph	miles per hour
SANDAG	San Diego Association of Governments
SCBA	self-contained breathing apparatus
SDCRAA	San Diego County Regional Airport Authority

# Executive Summary

The City of San Diego (City) proposes to construct and operate the North University City Fire Station 50 (proposed project). The project site is located within the University City community within the City, west of Interstate 805 (I-805), immediately south of Nobel Drive, and immediately east of Shoreline Drive. The development footprint of the project would comprise 0.92 acre. The three-story, 12,000-square-foot fire station would accommodate 10 personnel and equipment in order to provide emergency response times that meet national standards within the North University City area. This report discusses project compatibility with the existing noise environment and potential noise impacts from the construction and operation of the project.

The project would be exposed to noise from traffic on nearby local roadways and noise from aircraft originating from Marine Corps Air Station (MCAS) Miramar. Traffic on nearby roadways is anticipated to result in a maximum community noise equivalent level (CNEL) of approximately 67 at the fire station building façade. Standard construction would result in an exterior-to-interior noise level reduction of 25 A-weighted decibels (dB[A]) when windows are closed. Thus, interior noise levels would reach up to 42 CNEL. Although the City's Noise Compatibility Guidelines do not include compatibility criteria for fire stations, interior noise compatibility criteria for other land uses that include sleeping quarters are 45 CNEL. As interior noise levels would not exceed 45 CNEL, interior noise levels would not interfere with sleep and the project would be compatible with traffic noise.

The project site is within the 60 CNEL contour of MCAS Miramar. Thus, aircraft noise levels may range from 60 to 65 CNEL. Based on noise compatibility criteria established in the *MCAS Miramar Airport Land Use Compatibility Plan (ALUCP)*, fire stations are compatible with noise levels up to 65 CNEL. As aircraft noise levels would not exceed the applicable compatibility criteria, the project would also be compatible with aircraft noise from MCAS Miramar.

The project would generate noise from construction activities, project-generated traffic, parking lot activities, and on-site mechanical equipment. Project generated noise is assessed in accordance with noise standards established in the City Noise Abatement and Control Ordinance (Noise Ordinance).

The project would increase traffic volumes on local roadways. Project generated traffic would include worker commute trips and use of emergency response vehicles. Project generated traffic would contribute to less than a decibel increase in the noise levels of adjacent roadways. This increase in noise level would be less than perceptible; thus, the project would not contribute to a substantial increase in traffic noise. Noise associated with emergency responses such as fire engine and ambulance sirens is exempted from noise standards in the Noise Ordinance (Municipal Code Section 59.5.0402[b]).

On-site noise sources would include parking lot activity and mechanical equipment such as a self-contained breathing apparatus (SCBA) cylinder recharging station, two heating,

ventilation, and air conditioning (HVAC) units, and a standby generator. Parking lot activity associated with the project would be less intensive than parking lot activity associated with adjacent uses, thus no noise impacts would occur. When the SCBA cylinder recharging station, HVAC units, and standby generator are operated under peak load and vehicle bay doors are open, noise levels along adjacent property lines would reach up to 42 dB(A). Therefore, project mechanical equipment would not result in noise levels that exceed applicable daytime noise level limit of 55 dB(A)  $L_{eq}$  or nighttime noise level limit of 45 dB(A)  $L_{eq}$  established in the City's Noise Ordinance (Municipal Code Section 59.5.0401[a]).

The Noise Ordinance mandates that construction noise levels may not exceed a 12-hour equivalent noise level ( $L_{eq(12)}$ ) of 75 dB(A) at the property zoned residential. Modeled construction noise levels reach up to 76 dB(A)  $L_{eq(12)}$  at the property line of the residentially zoned property immediately south of the project site. The area subject to noise levels in excess of 75 dB(A)  $L_{eq(12)}$  includes native vegetation to the east of Shoreline Drive and north of the private road that runs east-west through the Lucera Apartments at UTC complex. Although noise levels at the property line would exceed noise level limits established in the Noise Ordinance, noise-sensitive land uses would not be subject to excessive noise levels. Therefore, no noise abatement is recommended.

# 1.0 Introduction

This report evaluates the significance of potential noise impacts from the construction and operation of the proposed project. As part of this assessment, the compatibility of the project with the existing noise environment is assessed based on the City's Noise Ordinance and Noise Compatibility Guidelines.

## 1.1 Project Description

The project would consist of a three-story, 12,000-square-foot building that would provide emergency response times that meet national standards within the area. The 0.92-acre project site is located to the south and east of the intersection of Nobel Drive and Shoreline Drive, within the North University Community Planning Area (Figure 1). The project site is bounded on the west by Shoreline Drive, on the north by Nobel Drive, and the Rose Canyon Open Space extends past the project area to the south and east (Figure 2). Interstate 805 is less than 0.5 mile east. The surrounding area to the west and south is a residential community.

The proposed fire station would include a workshop, vestibule, watch room, exterior patio, a recharging station for SCBA cylinders, and associated components that would house up to 10 crewmembers (Figure 3). The associated components for crewmembers would comprise the second story. Components for crewmembers, along with the watch room, would be air-conditioned. There would be 10 crewmembers present at all times, with a shift change typically occurring at 7:00 a.m. The station also includes an apparatus bay with three bays for storage of the fire engines or ambulances. Other on-site components include a 14-space parking lot that would have a gated entry; a storage area for a fuel tank and a standby generator; and a trash enclosure. Walls would be located around the generator and around the perimeter of the parking lot. Relative to the park lot elevation, the parking lot and enclosure walls would range from 6 to 8 feet. Three, 75-foot-wide flow-through planters would be provided in the southern portion of the site that would treat and detain all storm water runoff on-site.

Project emergency vehicles would exit the fire station through Nobel Drive. The project would require a break in the median on Nobel Drive for emergency responses in which fire engines or ambulances would need head west on Nobel Drive. The new station would be equipped with a traffic signal switch to control the existing east and west bound traffic signals on Nobel Drive, as well as a new traffic control signal that would halt westbound traffic on Nobel Drive before the median break during emergency response calls. The traffic signal at the intersection of Nobel Drive and Shoreline Drive would be retrofitted to allow for automatic pre-emption by emergency vehicles exiting the station.



 Project Location

**FIGURE 1**  
Regional Location of the North University City  
Fire Station 50 Project



- Project Site
- Noise Measurements

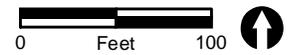


FIGURE 2

Project Location on Aerial Photograph



## 1.2 Fundamentals of Noise

Noise is as a sound that is loud or unpleasant or that causes disturbance. Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Additionally, in technical terms, sound levels are described as either a “sound power level” or a “sound pressure level,” which while commonly confused are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power is the energy converted into sound by the source. The sound power level of the source is expressed as  $L_{pw}$ . The  $L_{pw}$  is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an eardrum or microphone and is the sound pressure level. Noise measurement instruments only measure sound pressure and noise level limits used in standards are generally sound pressure levels. The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the “A-weighted” noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A).

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed including the maximum instantaneous noise level ( $L_{max}$ ), the equivalent average noise level ( $L_{eq}$ ), day–night noise equivalent level ( $L_{dn}$ ), and the CNEL, which are all used in this report.

The noise level over a period of minutes or hours is usually expressed as dB(A)  $L_{eq}$ , or the equivalent noise level for that period. The period of time period may be specified;  $L_{eq(3)}$  would be a 3-hour period;  $L_{eq(0.5)}$  would be half an hour period; when no period is specified, a 1-hour period is assumed.

The  $L_{dn}$  is a 24-hour average sound level based on the  $L_{eq}$  that includes a penalty for noise occurring during the night. An additional 10 dB(A) is added to noise occurring between 10:00 p.m. and 7:00 a.m. This penalty is intended to account for the added sensitivity of humans to noise during this time period.

Similar to the  $L_{dn}$ , the CNEL is a 24-hour noise level with penalties for noise occurring during the evening and night. An additional 5 dB(A) penalty is added to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and an additional 10 dB(A) is

added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These penalties are intended to account for the added sensitivity of humans to noise during the evening and night.

Noise from a localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The noise level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

However, traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop-off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (Caltrans 2013).

## **2.0 Existing Conditions**

### **2.1 Adjacent Land Uses**

The project parcel, along with parcels to the south and north across Nobel Drive are zoned residential single-family (RS-1-14). Land uses include undeveloped land to the east, the 256-unit Lucera Apartments at UTC complex to the south of the project site and the Nobel Athletic Fields to the north across Nobel Drive.

Nearby properties northeast of the intersection of Nobel Drive and Shoreline Drive are zoned medium density residential (RM-2-5). This nearest property is occupied by the Capri at Renaissance La Jolla condominium complex.

## 2.2 Site Measurements

Existing noise levels at the project site were measured on November 3, 2015 between 11:45 a.m. and 1:00 p.m., using a Larson-Davis LxT Sound Expert Sound Level Meter, serial number 3898. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Time History Period:	5 seconds
Height of Instrument:	5 feet above ground level

The meter was calibrated before and after each measurement. Three 15-minute measurements were made on and around the project site, as described below. The locations of the measurements are shown on Figure 2, and the noise measurement data are contained in Attachment 1.

Measurement 1 was located 50 feet south of Nobel Drive near the center of the project site. The main noise source at this location was traffic on Nobel Drive. Traffic volumes on Nobel Drive were counted during Measurement 1 and the results are shown in Table 1. The average measured noise level during Measurement 1 was 68.4 dB(A)  $L_{eq}$ .

Measurement	Direction	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
1	Westbound	84	3	0	1	0
	Eastbound	82	1	0	0	1

Measurement 2 was located within the Lucera Apartments at UTC complex immediately south of to the private road that runs east-west through the Lucera Apartments at UTC complex and immediately west of the apartments to the southeast of the project site. The elevation of this location is approximately 35 feet lower than the nearest segment of Nobel Drive. Thus, although there are no noise barriers between the location and Nobel Drive, traffic noise is partially shielded by topography. The main noise source at this location was traffic on Nobel Drive. Other noise sources included two jet fly-overs and two cars that passed by on Shoreline Drive. The average measured noise level during Measurement 2 was 62.1 dB(A)  $L_{eq}$ .

Measurement 3 was located within the Multi-Habitat Planning Area (MHPA) directly east of the project site and approximately 135 feet south of Nobel Drive. The elevation of this location is approximately 20 feet lower than the nearest segment of Nobel Drive. Thus, although there are no noise barriers between the location and Nobel Drive, traffic noise is partially shielded by topography. The main source of noise at this location was traffic on Nobel Drive. Other noise sources included five jet fly-overs. The average measured noise level during Measurement 3 was 67.0 dB(A)  $L_{eq}$ .

# 3.0 Applicable Standards

## 3.1 Noise Ordinance

The City’s Noise Ordinance (Municipal Code Sections 59.5.0401-08) regulates noise generated by construction and operation of the project. However, as stated in Section 59.5.0402 noise standard:

Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations, including the blowing of sirens and/or horns.

### 3.1.1 Standards Applicable to On-site Generated Noise

Stationary on-site generated noise sources are regulated by Section 59.5.0401 of the Noise Ordinance, which states that:

- A. It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit.
- B. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

The applicable noise limits are summarized in Table 2.

Table 2 Applicable Noise Level Limits		
Land Use	Time of Day	Average Sound Level (dB[A] L <sub>eq</sub> )
Single-Family Residential	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
Multi-Family Residential (up to a maximum density of 1 unit/2,000 square feet)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
All Other Residential	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial	7:00 a.m. to 7:00 p.m.	65
	7:00 p.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	60
Industrial or Agricultural	Anytime	75

### **3.1.2 Standards Applicable to Construction Noise**

Construction noise levels at residential receivers are regulated by Section 59.5.0404 of the City's Noise Ordinance, which states that:

- A. It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise. . .
  
- B. . . . it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.

## **3.2 Noise Compatibility Standards**

The Noise Element of the City's General Plan specifies compatibility standards for different categories of land use. The City's Land Use - Noise Compatibility Guidelines are intended to be used in planning efforts to prevent future incompatibilities. Off-site noise sources including traffic noise are covered by land use compatibility standards.

### **3.2.1 General Plan Noise Element**

The Land Use - Noise Compatibility Guidelines are shown in Table 3.

**Table 3  
City of San Diego – Land Use – Noise Compatibility Guidelines**

Land Use Category		Exterior Noise Exposure (dB[A] CNEL)			
		60	65	70	75
<i>Open Space and Parks and Recreational</i>					
Community & Neighborhood Parks; Passive Recreation					
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Outdoor Spectator Sports, Water Recreational Facilities; Horse Stables; Park Maint. Facilities					
<i>Agricultural</i>					
Animal Raising, Maintain & Keeping; Commercial Stables					
<i>Residential</i>					
Single Units; Mobile Homes; Senior Housing					
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations *For uses affected by aircraft noise, refer to Policies NE-D.2. & NE-D.3.					
<i>Institutional</i>					
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities					
Vocational or Professional Educational Facilities; Higher Education Institution Facilities (Community or Junior Colleges, Colleges, or Universities)					
Cemeteries					
<i>Sales</i>					
Building Supplies/Equipment; Food, Beverages & Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Wearing Apparel & Accessories					
<i>Commercial Services</i>					
Building Services; Business Support; Eating & Drinking; Financial Institutions; Assembly & Entertainment; Radio & Television Studios; Golf Course Support					
Visitor Accommodations					
<i>Offices</i>					
Business & Professional; Government; Medical, Dental & Health Practitioner; Regional & Corporate Headquarters					
<i>Vehicle and Vehicular Equipment Sales and Services Use</i>					
Commercial or Personal Vehicle Repair & Maintenance; Commercial or Personal Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking					
<i>Wholesale, Distribution, Storage Use Category</i>					
Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution					
<i>Industrial</i>					
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking & Transportation Terminals; Mining & Extractive Industries					
Research & Development					
	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level. Refer to Section I.		
		Outdoor Uses	Activities associated with the land use may be carried out.		
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas. Refer to Section I.		
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable. Refer to Section I.		
	Incompatible	Indoor Uses	New construction should not be undertaken.		
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.		
SOURCE: City of San Diego Noise Element 2008.					

## 3.2.2 MCAS Miramar Airport Land Use Compatibility Plan

The project site is located within the airport impact zone (AIA) of MCAS Miramar. As such, the project is subject to land use policies from the *MCAS Miramar Airport Land Use Compatibility Plan* (ALUCP), which was last updated in 2011 by the San Diego County Regional Airport Authority (SDCRAA; 2011). Table 4 summarizes the MCAS Miramar ALUCP noise compatibility policies.

Table 4 MCAS ALUCP – Noise Compatibility Policies						
Land Use Category <sup>1</sup>	Exterior Noise Exposure (dB CNEL)					
	50-55	55-60	60-65	65-70	70-75	75-80
<i>Agricultural and Animal-Related</i>						
nature preserves; wildlife preserves; horse stables; livestock breeding or farming		A	A	A	A	
zoos; animal shelters/kennels; interactive nature exhibits			A	A		
agriculture (except residences and livestock); greenhouses; fishing						A
<i>Recreational</i>						
children-oriented neighborhood parks; playgrounds			A			
campgrounds; recreational vehicle/motor home parks						
community parks; regional parks; golf courses; tennis courts; athletic fields; outdoor spectator sports; fairgrounds; water recreation facilities				A		
recreation buildings; gymnasiums; club houses; athletic clubs; dance studios				50	50	
<i>Public</i>						
outdoor amphitheatres		A	A			
children's schools (K-12); day care centers (>14 children)			45			
libraries			45			
auditoriums; concert halls; indoor arenas; places of worship			45	45		
adult schools; colleges; universities <sup>2</sup>			45	45		
prisons; reformatories				50		
public safety facilities (e.g., police, fire stations)				50	50	
cemeteries; cemetery chapels; mortuaries				45	45	
				A	A	
<i>Residential, Lodging, and Care</i>						
residential (including single-family, multi-family, and mobile homes); family day care homes (<=14 children)			45			
extended-stay hotels; retirement homes; assisted living; hospitals; nursing homes; intermediate care facilities			45			
hotels; motels; other transient lodging <sup>3</sup>			45	45		
<i>Commercial and Industrial</i>						
office buildings; medical clinics; clinical laboratories; radio, television, recording studios				50	50	
retail sales; eating/drinking establishments; movie theaters; personal services				50	50 B	
wholesale sales; warehouses; mini/other indoor storage					50 C	50 C
industrial; manufacturing; research & development; auto, marine, other sales & repair services; car washes; gas stations; trucking, transportation terminals					50 C	50 C
extractive industry; utilities; road, rail rights-of-way; outdoor storage; public works yards; automobile parking; automobile dismantling; solid waste facilities						50 C

**Table 4  
MCAS ALUCP – Noise Compatibility Policies Cont.**

<b>Land Use Acceptability</b>		<b>Interpretation/Comments</b>
	Compatible	Indoor Uses: Standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor CNEL
		Outdoor Uses: Activities associated with the land use may be carried out with essentially no interference from aircraft noise
45 50	Conditional	Indoor Uses: Building must be capable of attenuating exterior noise to the indoor CNEL indicated by the number; standard construction methods will normally suffice
		Outdoor Uses: CNEL is acceptable for outdoor activities, although some noise interference may occur.
A B C	Conditional	Indoor or Outdoor Uses: A Caution should be exercised with regard to noise-sensitive outdoor uses; these uses are likely to be disrupted by aircraft noise events; acceptability is dependent upon characteristics of the specific use <sup>4</sup> B Outdoor dining or gathering places incompatible above CNEL 70 dB C Sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of CNEL 50 dB
	Incompatible	Indoor Uses: Unacceptable noise interference if windows are open; at exposures above 65 dB CNEL, extensive mitigation techniques required to make the indoor environment acceptable for performance of activities
		Outdoor Uses: Severe noise interference makes outdoor activities unacceptable
<p>Notes</p> <p><sup>1</sup> Land uses not specifically listed shall be evaluated using the criteria for similar uses.</p> <p><sup>2</sup> Applies only to classrooms, offices, and related indoor uses. Laboratory facilities, gymnasiums, outdoor athletic facilities, and other uses to be evaluated as indicated for those land use categories.</p> <p><sup>3</sup> Hotels and motels are lodging intended for stays by an individual person of no more than 30 days consecutively and no more than 90 days total per year; facilities for longer stays are in extended-stay hotels category.</p> <p><sup>4</sup> Noise-sensitive land uses are ones for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by loud noise events. The most common types of noise-sensitive land uses include, but are not limited to, the following: residences, hospitals, nursing facilities, intermediate care facilities, educational facilities, libraries, museums, concert halls, places of worship, child-care facilities, and certain types of passive recreational parks and open space</p>		
SOURCE: MCAS Miramar Airport Land Use Compatibility Plan (SDCRAA 2011)		

### 3.3 Emergency Vehicle Standards

All sirens on emergency vehicles sold after January 1982 are subject to performance standards established in Section 1028 of the California Code of Regulations (CCR) Title 13, Division 2, Chapter 4, Article 8. Performance standards categorize sirens as either Class A or B; sirens that do not meet the criteria for either class are not permitted for use on emergency vehicles. Sirens used on emergency vehicles include a “wail” function that runs continuously and may also include manual and yelp functions that produce short burst of noise. Wail functions generate noise in the 1000- and 2000-hertz (Hz) octave bands. Minimum allowable noise levels as measured 3 meters (9.8 feet) from the siren are shown in Table 5.

Speaker Rotation Angle	Noise Level (dB[A] at 3 meters)	
	Class A	Class B
0	120	115
10	119	114
20	118	113
30	117	112
40	115	110
50	113	108

SOURCE: CCR Title 13, Division 2, Chapter 4, Article 8.

## 4.0 Analysis Methodology

### 4.1 Traffic Noise

Traffic noise levels were modeled using SoundPLAN (Navcon Engineering 2015). The SoundPLAN program uses the Federal Highway Administration’s Traffic Noise Model algorithms and reference levels to calculate noise levels at selected receiver locations using input parameter estimates such as projected hourly average traffic rates; vehicle mix, distribution, and speed; roadway lengths and gradients; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. Receivers, roadways, and barriers were input into the model using three-dimensional coordinates.

This analysis considers traffic noise generated on roadways in the project vicinity including Nobel Drive and Shoreline Drive. Traffic volumes were estimated based on forecasted 2020 traffic volumes obtained from the San Diego Association of Government’s (SANDAG) Transportation Information Center (SANDAG 2015). This model does not include traffic volumes for Shoreline Drive south of Nobel Drive. This segment only serves the Lucera Apartments at UTC complex. Traffic volumes were estimated based on the size of the complex, 256 units, and trip generation rates from SANDAG’s *Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG 2002).

Calculations were completed for a peak daytime hour. Peak hour traffic volumes were estimated at 10 percent of the total average daily trips (ADT). Typically, the predicted CNEL and the peak hourly  $L_{eq}$  are approximately equal. A standard vehicle classification mix of 94.5 percent automobiles, 3 percent medium trucks, 1 percent heavy trucks, 1 percent buses, and 0.5 percent motorcycles was modeled. Vehicle speeds were modeled as the posted speed limit. Modeled traffic parameters are summarized in Table 6.

Table 6 Traffic Parameters			
Roadway	Segment	Speed (mph)	Traffic Volume (ADT)
Nobel Drive	East of Shoreline Drive	45	15,100
	West of Shoreline Drive	45	12,800
Shoreline Drive	North of Nobel Drive	25	4,800
	South of Nobel Drive	25	1,536
Private Road	South of Shoreline Drive	25	1,536
mph = miles per hour SOURCE: SANDAG 2015.			

### 4.1.1 Worker Commute

The project would generate additional traffic on nearby roadways. Project traffic would include worker commute trips, and engine and truck responses. The project is not anticipated to generate substantial visitor traffic and the project parking lot would have a gated entry.

The proposed fire station is anticipated to operate with 10 fire fighters per shift. Standard work shifts for fire fighters in the City are 24-hours increments. Based on data from the project traffic consultant, the project would generate 20 employee work trips per day (Urban Systems Associated 2015). The impact of worker commute trips was assessed based on the relative increase in traffic noise levels on nearby roadways.

### 4.1.2 Emergency Response Vehicles

The proposed fire station would include an apparatus bay with three “slots” for storage of the fire engines and ambulances. According to the data from the project traffic consultant, the project would have an average of 11 emergency responses (22 trips) per day (Urban Systems Associated 2015).

The primary source of noise associated with fire engines and ambulances are sirens. Performance standards for sirens are discussed in Section 3.3. Sirens typically generate noise levels of 120 dB(A) at 10 feet in the 1000- and 2000-hz octave bands. Sirens are typically directional, with noise directed in the direction the engine or ambulance is facing. This reduces noise levels at receivers to the side or rear of emergency vehicles. Noise from sirens was conservatively modeled as omnidirectional.

Sirens are assumed to be active during outgoing trips and inactive during return trips. As measured at a given location, noise levels from sirens would vary as the vehicle approached and passed. For the purpose of analysis, it was assumed that emergency vehicles would take approximately 10 seconds to exit the fire station driveway and would take approximately 5 seconds to pass residences along the outbound route.

## 4.2 Aircraft Noise

The project site is located approximately 1.5 miles west of the MCAS Miramar. Airport/aircraft noise is evaluated based on the noise contours and compatibility standards provided in the *MCAS Miramar ALUCP* (SDCRAA 2011). Noise contours are shown in Figure 4. As shown, the project site is within the 60 CNEL contour.

## 4.3 On-site Noise Sources

Stationary noise sources associated with the project would include parking lot activity, a SCBA cylinder recharging station, two HVAC units, and a standby generator.

### 4.3.1 Parking Lot Activity

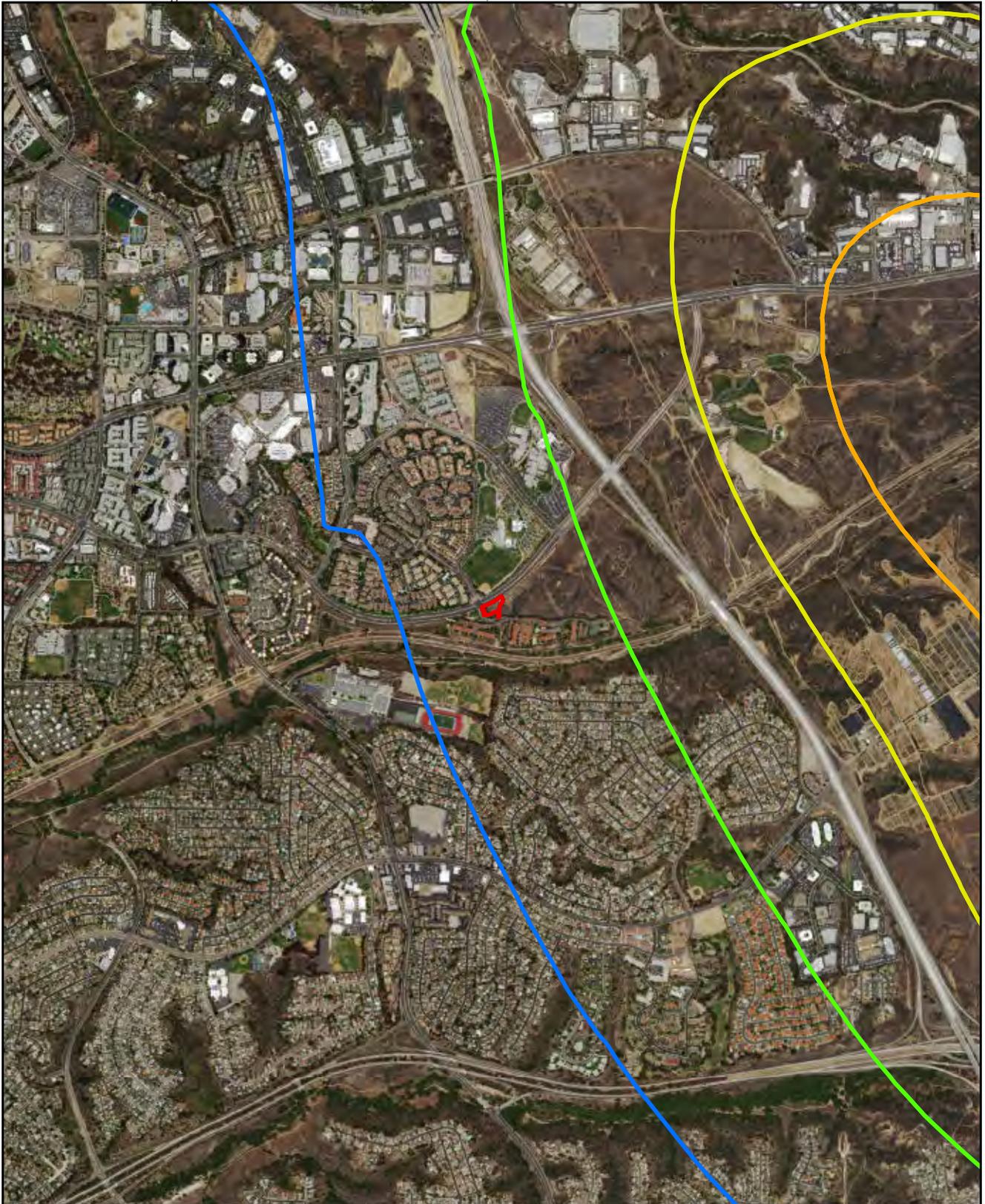
Parking lot activities that generate noise include vehicles traveling to and from parking spaces, and brief noise instances associated with parking such as opening and closing car doors, engines starting, and alarm activation noises. The fire station parking lot would be primarily used for worker commute vehicles; emergency vehicles would not use the parking lot and the project is not anticipated to generate substantial visitor trips.

### 4.3.2 Mechanical Equipment

Noise levels from mechanical equipment were modeled using SoundPLAN. The SoundPLAN program models propagation of noise from point sources in accordance with guidance from the International Standards Organization (ISO). Receivers, topography, and barriers were modeled using three-dimensional coordinates to account for shielding provided by intervening terrain, barriers, and structures. As discussed previously, noise from a localized source radiates uniformly outward as it travels away from the source in a spherical pattern and drops off at a rate of 6 dB(A) for each doubling of the distance. Although equipment such as the HVAC units would operate less frequently at night, noise levels were modeled with all mechanical equipment operating under peak load and noise levels were compared to both daytime and nighttime noise level limits. Reference noise levels for each piece of mechanical equipment are discussed below.

#### 4.3.2.1 SCBA Cylinder Recharging Station

The project would include a Unicus III Recharging Station that would be used to fill SCBA cylinders. The recharging station would be located between vehicle bays. Unicus III product brochures do not identify noise levels generated by the specific model; Based on a review of similar SCBA recharging systems, noise levels under peak load are anticipated to range from 70 to 80 dB(A) as measured at approximately 3 feet. Noise levels were modeled in SoundPLAN assuming all vehicle bay doors are open and the SCBA cylinder recharging station is under peak load.



 Project Site **MCAS Miramar Noise Contours**



 60 CNEL

 65 CNEL

 70 CNEL

 75 CNEL

**FIGURE 4**  
**MCAS Miramar Noise Contours**

### **4.3.2.2 HVAC Units**

The proposed fire station would be 12,000 square feet; of this, 5,000 to 6,000 square feet would be air-conditioned. Based on the area of air-conditioned space it was assumed that the project would require approximately 10-tons of HVAC capacity. It is not known at this time which manufacturer, brand, or model of unit or units would be selected for use in the project, or the specific location units would be placed. For the purposes of this analysis, it was assumed that two 5-ton Carrier 25HHA4 units would be located at the center of the fire station roof. Each HVAC unit has a sound power level of 72 dB(A) (Carrier 2015, Attachment 2); together, the units would generate noise levels of approximately 57 dB(A)  $L_{eq}$  at 10 feet. Noise levels were modeled in SoundPLAN assuming both HVAC units are under peak load.

### **4.3.2.3 Standby Generator**

The City Fire Department requires all fire stations be equipped with a standby generator with capacity for operation of bay doors, communications equipment, alert monitors, kitchen appliances, fuel dispensing systems, certain outlets, and minimum lighting throughout the station. Standby generators are typically sized at approximately 20 kiloWatts (kW) and have fuel tanks sized to provide 48 hours of operation. Generators are required to have a weather/sound enclosure.

The generator and fuel tank would be located in an enclosure near the northwest corner of the site. The enclosure would be a solid wall with a height of approximately 8-feet (pad elevation of approximately 300-feet above mean sea level, top-of-wall elevation of approximately 308-feet above mean sea level).

Standby generators are typically operated under two conditions: loss of main electrical supply or preventive maintenance/testing. It is not known at this time which manufacturer, brand, or model of generator would be selected for use in the project. For the purposes of this analysis, a 20 kW Generac Guardian Series Standby Generator Model 006729-1 was modeled. This model would generate noise levels of approximately 60 dB(A) at 23 feet during routine testing and noise levels of up to 66 dB(A) at 23 feet under peak load (Generac 2015; Attachment 3). Noise levels were modeled at the adjacent property lines and adjacent land uses assuming continuous operation under peak load.

## **4.4 Construction**

Project construction noise would be generated by diesel engine-powered construction equipment used for site preparation, grading, building construction, and pavement. Diesel engine-powered trucks also would bring materials to the site and remove the soils from excavation. Noise levels from construction were modeled using SoundPLAN. The SoundPLAN program models propagation of noise from area sources in accordance with guidance from the ISO.

The noise levels for various types of common construction equipment are listed in Table 7. As shown, construction equipment typically generates maximum noise levels from 70 dB(A) to 90 dB(A) at 50 feet from the source (Federal Transit Administration 2006). Each phase of construction has a specific equipment mix, depending on the work to be accomplished during that phase. Thus, each phase also has its own noise characteristics.

<b>Table 7 Typical Maximum Construction Equipment Noise Levels</b>		
<b>Equipment</b>	<b>L<sub>max</sub> at 50 feet [dB(A)]</b>	<b>Acoustical Use Factor (%)</b>
Auger Drill Rig	85	20%
Backhoe	80	40%
Chain Saw	85	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kVA or less)	70	50%
Generator (more than 25 kVA)	82	50%
Grader	85	40%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	80	20%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
kVA = kilovolt-amps SOURCE: FTA 2006.		

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. The acoustical use factor is a unitless factor (usually expressed as a percentage) that represents the average noise generated by use of a piece of equipment versus its maximum noise level. Power variation is accounted for by describing the noise from the equipment operating at full power and adjusting it based on the acoustical use factor of the equipment to determine the average noise level of the operation.

Grading typically includes the most pieces of heavy equipment and results in the highest noise levels at adjacent receivers. Based on previous projects with similar scope and

magnitude, grading activities would involve two excavators, a dozer, a grader, and a water truck. Due to the size of the project site, it was assumed that up to two pieces of equipment may be active at a given time. Assuming up to two pieces of equipment are active at the same time, noise levels would reach approximately 84 dB(A)  $L_{eq}$  at 50 feet as measured from the center of activity. As construction equipment typically moves around, equipment was modeled as an area source distributed over the entire disturbance area. Total sound energy of this source was modeled assuming all grading equipment would be in simultaneous use.

## 5.0 Acoustical Environment and Impacts

### 5.1 Traffic Noise

#### 5.1.1 Project Compatibility

Using the traffic parameters discussed in Section 4.1, Traffic Analysis Methodology, ground-floor contours were calculated across the project site. Traffic noise contours are shown on Figure 5. As shown, ground-floor noise levels are projected to be 70 CNEL or less across the entire project site. SoundPLAN data for traffic noise modeling are contained in Attachment 4.

Noise levels also modeled for a series of specific receiver locations. Specific receiver locations included the patio and building façades. Noise levels along the building façade were used to determine interior noise levels. Noise levels were modeled at first- and second-floor elevations and account for shielding from topography, the proposed building, and walls. Receiver locations are shown on Figure 5. Table 8 summarizes the noise levels at the modeled receivers.

Receiver	Description	Noise Level (CNEL)	
		First Floor	Second Floor
PAT-1	Eastern Patio	-	59
FAC-1	Western Façade	52	57
FAC-2	Northern Façade	65	67
FAC-3A	Eastern Façade*	61	-
FAC-3B	Eastern Façade*	-	64
FAC-4	Southern Façade	43	44

\* The eastern façade of the fire station has an overhang. Receivers 3A and 3B are located at the façade of each building floor.



- |  |   |   |   |
|--|---|---|---|
|  Project Site           | <b>Traffic Noise Contours</b>   |  |  |
|  Fire Station Footprint |  60 CNEL |   |   |
|  Modeled Receivers      |  65 CNEL |   |   |
|  Proposed Walls         |  70 CNEL |   |   |
|  |  75 CNEL |   |   |

**FIGURE 5**

Traffic Noise Contours

Fire stations are not typically considered noise-sensitive land uses. The City's Noise Compatibility Guidelines do not identify noise compatibility criteria for fire stations. Although the project is not subject to noise compatibility criteria, indoor activities associated with the fire station would include sleep. Land uses commonly assumed to include sleeping quarters include single-family residential, multi-family residential, and visitor accommodations. The City's Noise Compatibility Guidelines establish interior noise standards of 45 CNEL for all of these land uses. Thus, in the absence of applicable compatibility criteria, interior noise levels were assessed against an interior noise standard of 45 CNEL.

As shown in Table 8, noise levels at building façades would reach up to 67 CNEL. According to the Federal Highway Administration's (FHWA) *Highway Traffic Noise Analysis and Abatement Guidance*, standard construction techniques provide an exterior-to-interior noise reduction of 10 dB when windows are open (FHWA 2011). When the windows of a masonry structure are closed, the exterior-to interior noise reduction increases to 25 dB if windows are single-glazed or greater if windows are dual-glazed. Thus, interior noise levels would be 42 CNEL or less when windows are closed. Interior noise levels would not exceed 45 CNEL and would be compatible with City standards.

### **5.1.2 Off-site Traffic Noise Increase**

Worker commute and emergency responses would increase traffic volumes on local roadways. Noise level increases would be greatest nearest the project site, as this location would represent the greatest concentration of project-related traffic. As discussed in Section 1.2, doubling of the energy of a noise source, such as traffic volumes on a roadway, would result in a 3 dB(A) increase in noise levels (California Department of Transportation 2013). Studies have shown that the average human ear can barely perceive a change in sound level of 3 dB(A). A change of at least 5 dB(A) is considered a readily perceivable change in a normal environment. A 10 dB(A) increase is subjectively heard as a doubling in loudness and would cause a community response. Based on these concepts of perception, 3 dB(A) is conservatively considered a substantial increase in ambient traffic noise levels.

Based on data from the project traffic consultant, the project would generate 20 worker commute trips per day (Urban Systems Associated 2015). Additionally, the project is anticipated have an average of 11 emergency responses (22 trips) per day. Of these trips, 70 percent (29 trips) are anticipated to travel west on Nobel Drive, 25 percent (11 trips) are anticipated to travel east on Nobel Drive, and 5 percent (2 trip) are anticipated to travel north on Shoreline Drive. The increase in noise due to the addition of project traffic was calculated by comparing the existing to the existing plus project traffic volumes. The results are shown in Table 9.

As shown in Table 9, project-related traffic would contribute less than a decibel increase to the noise levels of adjacent roadways. Thus, the project would result in a less than perceptible change in traffic noise levels.

Table 9 Existing and Existing Plus Project Traffic Noise Level Increase						
Roadway	Segment	Traffic (ADT)		Noise Level (CNEL at 50 feet)		
		Existing	With Project	Existing	With Project	Increase
Nobel Drive	East of Shoreline Drive	15,100	15,111	70	70	>1 dB
	West of Shoreline Drive	12,800	12,829	70	70	>1 dB
Shoreline Drive	North of Nobel Drive	4,800	4,802	60	60	>1 dB

### 5.1.3 Emergency Response Sirens

The project is anticipated have an average of 11 responses (22 trips) per day. The primary source of noise associated with fire engines and ambulances are sirens. Sirens are assumed to be active during outbound trips and inactive during return trips. Thus, on average 11 outbound trips with active sirens would happen each day. While active, sirens typically generate noise levels of 120 dB(A) at 10 feet. Fire engines were assumed to travel in the left most during emergency responses.

The noise-sensitive receivers nearest to the outbound driveway of the station are apartments in the Lucera Apartments at UTC complex. These receivers are approximately 370 feet southeast of the driveway. During emergency responses and equipment testing, sirens may expose these receivers to instantaneous exterior noise levels of up to 89 dB(A)  $L_{max}$ . Accounting for the duration of it takes emergency vehicles to leave the fire station, this would result in noise levels of 63 dB(A)  $L_{eq}$ .

On average, emergency responses would include 7 outbound trips traveling west on Nobel Drive, 3 outbound trips traveling east on Nobel Drive, and 1 outbound trip traveling north on Shoreline Drive. Eastbound emergency vehicles would not pass noise-sensitive receivers. Westbound and northbound emergency vehicles would pass within 65 and 100 feet of residences in the Capri at Renaissance La Jolla condominium complex, respectively. When emergency vehicles pass the nearest residence, instantaneous noise levels may reach up to 104 dB(A)  $L_{max}$ . Accounting for the duration of noise, this would result in noise levels of 75 dB(A)  $L_{eq}$ .

As discussed above, emergency responses may result in noise levels of up to 104 dB(A)  $L_{max}$  at nearby residences. Accounting for typical exterior-to-interior noise level reductions interior noise levels at adjacent residences may reach up to 79 dB(A)  $L_{max}$  (FHWA 2011). These noise levels may interrupt normal activities, however would be only last for several seconds. Additionally, the City operates 47 fire stations within city limits (Station 1, Stations 3–47, and Station 51). Most of these stations are immediately adjacent to residential uses. Therefore, project generated noise levels at residential uses would be similar to noise levels adjacent to existing fire stations. Section 59.5.0402 of the City’s Noise Ordinance exempts “emergency vehicles when being used in emergency situations, including the blowing of sirens and/or horns” from all noise standards. Thus, emergency response vehicles including fire engines and ambulances would not exceed noise standards.

### 5.1.4 Noise Sensitive Avian Species

As discussed previously, the project is anticipated have an average 11 outbound trips with active sirens each day. During each of these trips, sirens are anticipated to generate substantial noise levels in nearby habitat for several seconds. During these brief intervals, siren noise levels may temporarily interfere with birdcalls. As discussed in the Biological Survey Report (RECON 2017), due to the brief and intermittent nature of siren noise, impacts to noise sensitive migratory bird species would be less than significant.

## 5.2 Aircraft Noise

Aircraft noise levels are assessed against noise compatibility criteria established in the MCAS Miramar ALUCP. According to the ALCUP, public safety facilities such as police and fire stations are compatible with aircraft noise levels up to 65 CNEL and conditionally compatible with noise levels up to 75 CNEL.

As discussed in Section 4.2, Aircraft Analysis Methodology, the project site is within the 60 CNEL contour of MCAS Miramar. Thus, aircraft noise levels are between 60 and 65 CNEL. As aircraft noise levels would not exceed the applicable compatibility criteria, 65 CNEL, the project would be compatible with noise from MCAS Miramar.

## 5.3 On-site Generated Noise

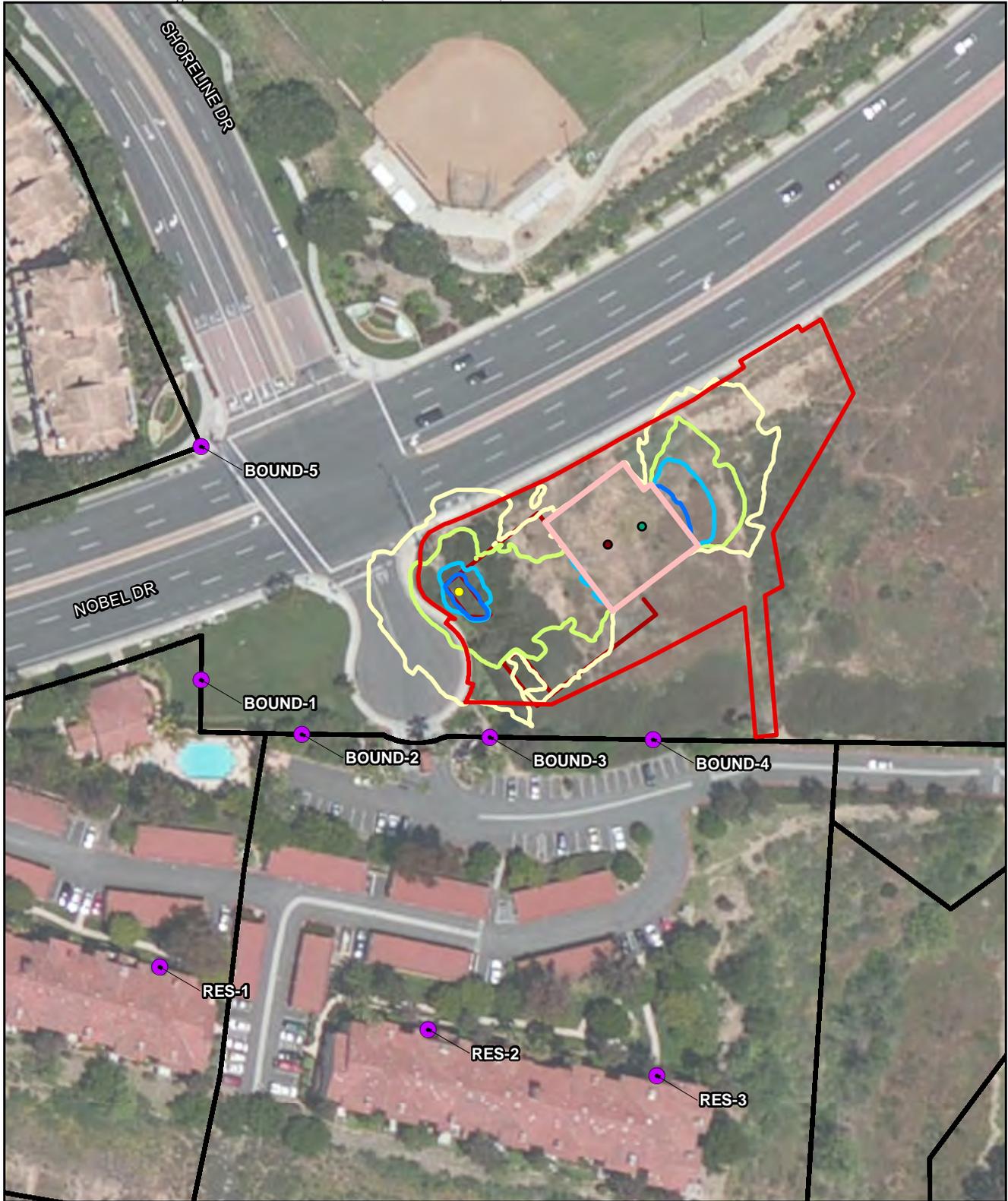
### 5.3.1 Parking Lot Activity

Parking lot activities that generate noise include vehicles traveling to and from parking spaces, and brief noise instances associated with parking such as opening and closing car doors, engines starting, and alarm activation noises.

Based on data from the project traffic consultant, the project would generate 20 employee work trips per day (Urban Systems Associated 2015). This is approximately equivalent to the parking lot activity associated with three apartments. Project parking lot activity associated with the project would be less intensive than parking lot activity associated with adjacent uses. As the project parking lot would be less intensive than adjacent uses that do not exceed noise level limits established in the City's Noise Ordinance, the project is not anticipated to result in noise levels in excess of the applicable noise level limits.

### 5.3.2 Mechanical Equipment

Following the methodology discussed in Section 4.3.2, Mechanical Equipment Analysis Methodology, mechanical equipment noise levels were modeled at a series of specific receiver locations along the property line and ground-floor noise contours were calculated. Receiver locations and ground-floor noise contours are shown on Figure 6. Table 10 summarizes the projected noise levels at the modeled receivers. SoundPLAN data are contained in Attachment 4.



- |                        |                   |                       |
|------------------------|-------------------|-----------------------|
| Project Site           | Modeled Receivers | <b>Noise Contours</b> |
| Parcels                | SCBA Station      | 45 dB(A) Leq          |
| Fire Station Footprint | HVAC Units        | 50 dB(A) Leq          |
| Proposed Walls         | Generator         | 55 dB(A) Leq          |
|                        |                   | 60 dB(A) Leq          |



**FIGURE 6**

**Mechanical Equipment Noise Contours**

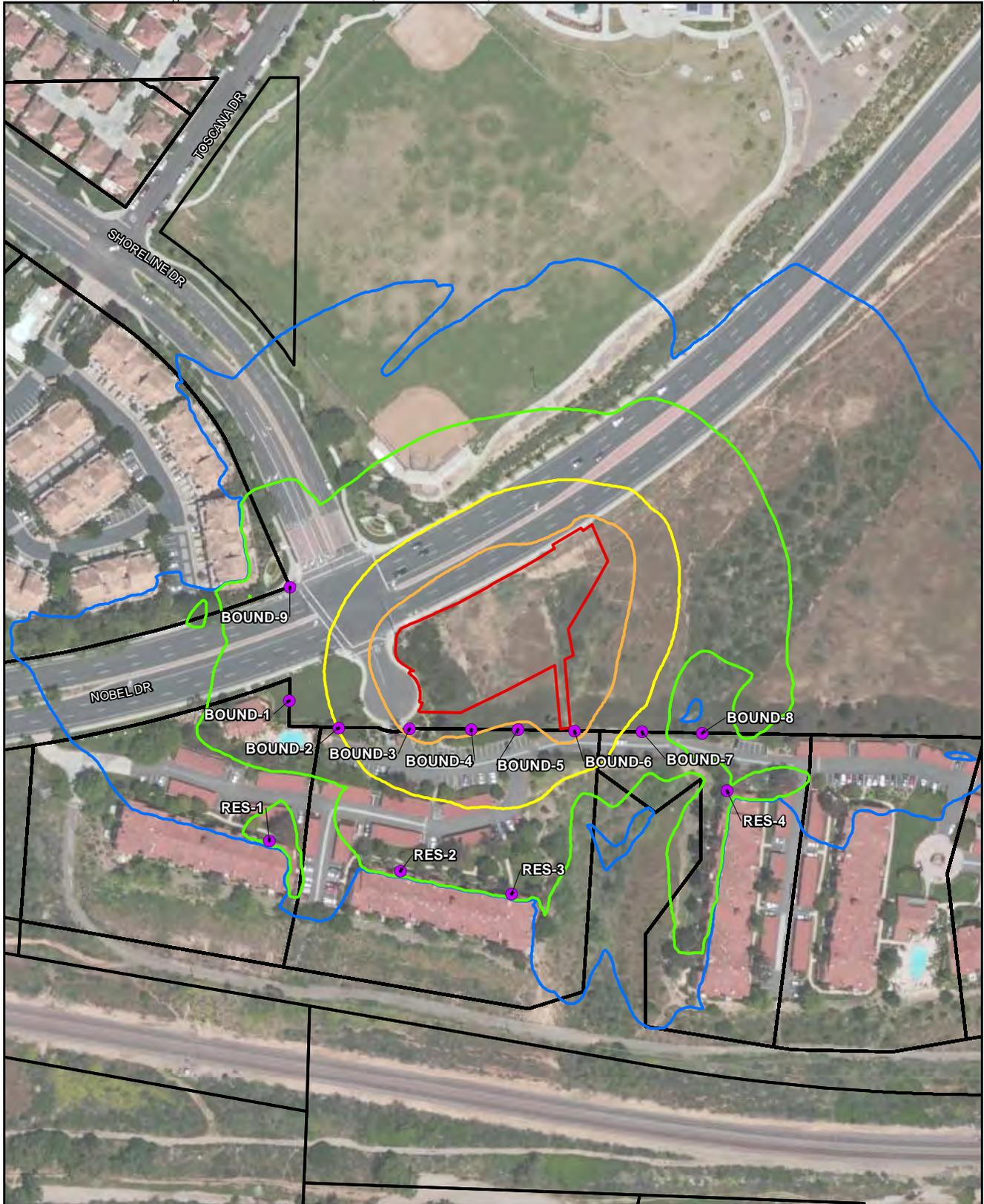
As discussed in Section 3.1.1, the City’s Noise Ordinance establishes a daytime noise level limit of 55 dB(A) and a nighttime noise level limit of 45 dB(A) at multi-family land uses (Municipal Code Section 59.5.0401[a]). When the SCBA cylinder recharging station, HVAC units, and standby generator are operated under peak load, noise levels along adjacent property lines would reach up to 42 dB(A). Therefore, project mechanical equipment would not result in noise levels that exceed applicable daytime or nighttime noise level limits established in the City’s Noise Ordinance (Municipal Code Section 59.5.0401[a]).

<b>Table 10 Generator Noise Levels</b>	
<b>Receiver</b>	<b>Noise Levels (dB[A] L<sub>eq</sub>)</b>
<b>Project Site Boundary</b>	
BOUND-1	36
BOUND-2	40
BOUND-3	42
BOUND-4	35
BOUND-5	35
<b>Residential Uses</b>	
RES-1	33
RES-2	34
RES-3	32

## 5.4 Construction Noise

Following the methodology discussed in Section 4.2, Construction Analysis Methodology, construction noise levels were modeled at a series of specific receiver locations along the property line and noise ground-floor contours were generated. Table 11 summarizes the projected noise levels at the modeled receivers. Receiver locations and ground-floor noise contours are shown on Figure 7. SoundPLAN data for construction noise modeling are contained in Attachment 4.

<b>Table 11 Construction Noise Levels</b>	
<b>Receiver</b>	<b>Noise Levels (dB[A] L<sub>eq(12)</sub>)</b>
<b>Project Site Boundary</b>	
BOUND-1	68
BOUND-2	70
BOUND-3	76
BOUND-4	76
BOUND-5	74
BOUND-6	78
BOUND-7	67
BOUND-8	62
BOUND-9	66
<b>Residential Uses</b>	
RES-1	64
RES-2	65
RES-3	66
RES-4	65



 Project Site

 Parcels

 Modeled Receivers

**Construction Noise Contours**

 60 dB(A) Leq

 65 dB(A) Leq

 70 dB(A) Leq

 75 dB(A) Leq



**FIGURE 7**

**Construction Noise Contours**

As discussed in Section 3.1.2, the City's Noise Ordinance states that construction noise levels may not exceed 75 dB(A)  $L_{eq(12)}$  at the property line of a property which is zoned residential. Noise levels along the property line immediately south of the project site would exceed 75 dB(A)  $L_{eq(12)}$ .

As shown in Figure 7, ground-floor noise levels south of the project site only exceed 75 dB(A)  $L_{eq(12)}$  in a small area of native vegetation to the east of Shoreline Drive and north of the private road that runs east-west through the Lucera Apartments at UTC complex. There are no noise-sensitive uses in this area. Although noise levels at the property line would exceed noise level limits established in the City's Noise Ordinance, noise-sensitive land uses would not be subject to excessive noise levels. Therefore, no noise abatement is recommended.

## **6.0 Conclusions**

### **6.1 Traffic Noise**

As shown in Figure 5, ground-floor noise levels are projected to be 70 CNEL or less across the project site. Modeled noise levels at the building façade of the offices would reach up to 67 CNEL. Fire stations are not typically considered noise-sensitive land uses and the City has not adopted noise compatibility criteria for fire stations. Associated activities including sleep may be disrupted if interior noise levels exceed 45 CNEL. Standard construction techniques would provide an exterior-to-interior noise reduction of 25 dB when windows are closed. Thus, interior noise levels would be 42 CNEL or lesser when windows are closed. As interior noise levels would not exceed 45 CNEL, the project would be compatible with traffic noise levels.

Project-generated traffic would increase traffic volumes on local roadways. Noise level increases would be greatest nearest the project site, which would represent the greatest concentration of project-related traffic. As shown in Table 9, the project traffic would contribute to less than a decibel increase in the noise levels of adjacent roadways. Thus, noise level increases would be less than perceptible. The project would not contribute to a substantial increase in traffic noise from worker commute trips. Noise from emergency response vehicles is exempt from City noise standards (Municipal Code Section 59.5.0402[b]).

### **6.2 Aircraft Noise**

The project site is within the 60 CNEL contour of MCAS Miramar. Thus, aircraft noise levels may range from 60 to 65 CNEL. Based on noise compatibility criteria established in the MCAS Miramar ALUCP, fire stations are compatible with noise levels up to 65 CNEL. As aircraft noise levels would not exceed the applicable compatibility criteria the project would be compatible with aircraft noise from MCAS Miramar.

## 6.3 On-site Generated Noise

On-site noise sources would include parking lot activity and mechanical equipment such as a SCBA cylinder recharging station, two HVAC units, and a standby generator. Parking activity associated with the project would be less intensive than parking lot activity associated with adjacent uses, which do not exceed the City's Noise Ordinance. Thus, project parking lot activities are not anticipated to exceed the noise level limits from the City's Noise Control Ordinance.

When the SCBA cylinder recharging station, HVAC units, and standby generator are operated under peak load and vehicle bay doors are open, noise levels along adjacent property lines would reach up to 42 dB(A). As discussed in Section 3.1.1, the City's Noise Ordinance establishes a daytime noise level limit of 55 dB(A)  $L_{eq}$  and a nighttime noise level limit of 45 dB(A)  $L_{eq}$  at multi-family land uses (Municipal Code Section 59.5.0401[a]). Therefore, project mechanical equipment would not result in noise levels that exceed applicable daytime or nighttime noise level limits established in the City's Noise Ordinance (Municipal Code Section 59.5.0401[a]).

## 6.4 Construction Noise

The City Noise Ordinance mandates that construction noise levels may not exceed 75 dB(A)  $L_{eq(12)}$  at the property zoned residential. Modeled construction noise levels reach up to 76 dB(A)  $L_{eq(12)}$  at the property line of residentially zoned properties to the south of the project site. As shown in Figure 7, ground-floor noise levels south of the project site only exceed 75 dB(A)  $L_{eq(12)}$  in a small area of native vegetation to the east of Shoreline Drive and north of the private road that runs east-west through the Lucera Apartments at UTC complex. Thus, although the project would exceed noise level limits from the City's Noise Ordinance, noise-sensitive land uses would not be subject to excessive noise levels. Therefore, no noise abatement is recommended.

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# ATTACHMENTS

# **ATTACHMENT 1**

## **Noise Measurements**

<b>Summary</b>			
Filename	LxT_Data.250		
Serial Number	3898		
Model	SoundTrack LxT@		
Firmware Version	2.206		
User			
Location			
Job Description			
Note			
<b>Measurement Description</b>			
Start	2015/11/03 11:44:45		
Stop	2015/11/03 11:59:45		
Duration	0:15:00.7		
Run Time	0:15:00.7		
Pause	0:00:00.0		
Pre Calibration	2015/11/03 11:44:09		
Post Calibration	None		
Calibration Deviation	---		
<b>Overall Settings</b>			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamp	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	145.6 dB		
	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	<b>101.8</b>	98.8	103.8 dB
Under Range Limit	<b>37.9</b>	35.9	43.9 dB
Noise Floor	24.9	25.5	33.0 dB
<b>Results</b>			
LAeq	68.4 dB		
LAE	97.9 dB		
EA	690.148 µPa²h		
EA8	22.068 mPa²h		
EA40	110.338 mPa²h		
LApeak (max)	2015/11/03 11:58:05	111.0 dB	
LASmax	2015/11/03 11:58:05	90.6 dB	
LASmin	2015/11/03 11:44:45	52.5 dB	
SEA	-99.9 dB		
LAS > 85.0 dB (Exceedence Counts / Duration)	1	4.8 s	
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LCeq	75.4 dB		
LAeq	68.4 dB		
LCeq - LAeq	7.0 dB		
LAlcq	70.2 dB		
LAeq	68.4 dB		
LAlcq - LAeq	1.8 dB		
# Overloads	0		
Overload Duration	0.0 s		
<b>Dose Settings</b>			
Dose Name	OSHA-1	OSHA-2	
Exch. Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	
<b>Results</b>			
Dose	0.00	0.01 %	
Projected Dose	0.09	0.47 %	
TWA (Projected)	39.7	51.3 dB	
TWA (t)	14.7	26.3 dB	
Lep (t)	53.3	53.3 dB	
<b>Statistics</b>			
LAS5.00	69.5 dB		
LAS10.00	67.8 dB		
LAS33.30	64.8 dB		
LAS50.00	62.5 dB		
LAS66.60	60.1 dB		
LAS90.00	56.8 dB		
<b>Calibration History</b>			
Preamp	<b>Date</b>	<b>dB re. 1V/Pa</b>	
PRMLxT1	2015/11/03 11:44:09	-51.8	
PRMLxT1	2015/10/29 11:10:42	-51.8	
PRMLxT1	2015/10/29 10:53:11	-51.7	
PRMLxT1	2015/10/29 10:28:39	-51.7	
PRMLxT1	2015/10/29 10:07:24	-51.7	
PRMLxT1	2015/10/29 9:55:07	-51.8	
PRMLxT1	2015/10/29 9:37:30	-51.7	
PRMLxT1	2015/10/29 9:29:20	-51.8	
PRMLxT1	2015/10/29 9:09:28	-51.8	
PRMLxT1	2015/09/10 16:01:03	-51.7	
PRMLxT1	2015/09/10 6:53:46	-51.7	

<b>Summary</b>			
Filename	LxT_Data.251		
Serial Number	3898		
Model	SoundTrack LxT@		
Firmware Version	2.206		
User			
Location			
Job Description			
Note			
<b>Measurement Description</b>			
Start	2015/11/03	12:21:46	
Stop	2015/11/03	12:36:47	
Duration	0:15:00.6		
Run Time	0:15:00.6		
Pause	0:00:00.0		
Pre Calibration	2015/11/03	12:21:08	
Post Calibration	None		
Calibration Deviation	---		
<b>Overall Settings</b>			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamp	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	145.6 dB		
	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	<b>101.8</b>	98.8	103.8 dB
Under Range Limit	<b>37.9</b>	35.9	43.9 dB
Noise Floor	24.9	25.5	33.0 dB
<b>Results</b>			
LAeq	62.1 dB		
LAE	91.7 dB		
EA	163.507 µPa²h		
EA8	5.229 mPa²h		
EA40	26.144 mPa²h		
LApeak (max)	2015/11/03	12:30:12	96.4 dB
LASmax	2015/11/03	12:30:12	78.2 dB
LASmin	2015/11/03	12:34:54	49.2 dB
SEA	-99.9 dB		
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LCeq	70.7 dB		
LAeq	62.1 dB		
LCeq - LAeq	8.6 dB		
LAleq	64.6 dB		
LAeq	62.1 dB		
LAleq - LAeq	2.4 dB		
# Overloads	0		
Overload Duration	0.0 s		
<b>Dose Settings</b>			
Dose Name	OSHA-1	OSHA-2	
Exch. Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	
<b>Results</b>			
Dose	-99.9	-99.9 %	
Projected Dose	-99.9	-99.9 %	
TWA (Projected)	-99.9	-99.9 dB	
TWA (t)	-99.9	-99.9 dB	
Lep (t)	47.1	47.1 dB	
<b>Statistics</b>			
LAS5.00	69.3 dB		
LAS10.00	65.5 dB		
LAS33.30	56.5 dB		
LAS50.00	54.7 dB		
LAS66.60	53.6 dB		
LAS90.00	51.7 dB		
<b>Calibration History</b>			
Preamp	<b>Date</b>	<b>dB re. 1V/Pa</b>	
PRMLxT1	2015/11/03 12:21:08	-51.8	
PRMLxT1	2015/11/03 12:02:41	-51.8	
PRMLxT1	2015/11/03 11:44:09	-51.8	
PRMLxT1	2015/10/29 11:10:42	-51.8	
PRMLxT1	2015/10/29 10:53:11	-51.7	
PRMLxT1	2015/10/29 10:28:39	-51.7	
PRMLxT1	2015/10/29 10:07:24	-51.7	
PRMLxT1	2015/10/29 9:55:07	-51.8	
PRMLxT1	2015/10/29 9:37:30	-51.7	
PRMLxT1	2015/10/29 9:29:20	-51.8	
PRMLxT1	2015/10/29 9:09:28	-51.8	

<b>Summary</b>			
Filename	LxT_Data.252		
Serial Number	3898		
Model	SoundTrack LxT@		
Firmware Version	2.206		
User			
Location			
Job Description			
Note			
<b>Measurement Description</b>			
Start	2015/11/03 12:44:14		
Stop	2015/11/03 12:59:14		
Duration	0:15:00.7		
Run Time	0:15:00.7		
Pause	0:00:00.0		
Pre Calibration	2015/11/03 12:43:51		
Post Calibration	None		
Calibration Deviation	---		
<b>Overall Settings</b>			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamp	PRMLxT1		
Microphone Correction	Off		
Integration Method	Linear		
Overload	145.7 dB		
	<b>A</b>	<b>C</b>	<b>Z</b>
Under Range Peak	<b>101.9</b>	98.9	103.9 dB
Under Range Limit	<b>37.9</b>	35.9	43.9 dB
Noise Floor	25.0	25.5	33.1 dB
<b>Results</b>			
LAeq	67.0 dB		
LAE	96.5 dB		
EA	501.693 µPa²h		
EA8	16.042 mPa²h		
EA40	80.209 mPa²h		
LApeak (max)	2015/11/03 12:49:07	102.0 dB	
LASmax	2015/11/03 12:49:15	84.5 dB	
LASmin	2015/11/03 12:52:29	45.8 dB	
SEA	-99.9 dB		
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LApeak > 140.0 dB (Exceedence Counts / Duration)	0	0.0 s	
LCeq	72.5 dB		
LAeq	67.0 dB		
LCeq - LAeq	5.5 dB		
LAleq	70.8 dB		
LAeq	67.0 dB		
LAleq - LAeq	3.8 dB		
# Overloads	0		
Overload Duration	0.0 s		
<b>Dose Settings</b>			
Dose Name	OSHA-1	OSHA-2	
Exch. Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	
<b>Results</b>			
Dose	-99.9	0.02 %	
Projected Dose	-99.9	0.61 %	
TWA (Projected)	-99.9	53.2 dB	
TWA (t)	-99.9	28.2 dB	
Lep (t)	52.0	52.0 dB	
<b>Statistics</b>			
LAS5.00	71.2 dB		
LAS10.00	67.0 dB		
LAS33.30	58.6 dB		
LAS50.00	54.9 dB		
LAS66.60	52.5 dB		
LAS90.00	49.2 dB		
<b>Calibration History</b>			
Preamp	<b>Date</b>	<b>dB re. 1V/Pa</b>	
PRMLxT1	2015/11/03 12:43:51	-51.9	
PRMLxT1	2015/11/03 12:37:21	-51.8	
PRMLxT1	2015/11/03 12:21:08	-51.8	
PRMLxT1	2015/11/03 12:02:41	-51.8	
PRMLxT1	2015/11/03 11:44:09	-51.8	
PRMLxT1	2015/10/29 11:10:42	-51.8	
PRMLxT1	2015/10/29 10:53:11	-51.7	
PRMLxT1	2015/10/29 10:28:39	-51.7	
PRMLxT1	2015/10/29 10:07:24	-51.7	
PRMLxT1	2015/10/29 9:55:07	-51.8	
PRMLxT1	2015/10/29 9:37:30	-51.7	

**ATTACHMENT 2**

**HVAC Unit Specifications**

**25HHA4  
Performance™ Series Heat Pump  
with Puron® Refrigerant  
1 – 1/2 to 5 Nominal Tons**



## Product Data



Performance  
SERIES

Carrier Heat Pumps with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 25HHA4 has been designed utilizing Carrier's Puron refrigerant. This environmentally sound refrigerant allows you to make a responsible decision in the protection of the earth's ozone layer.

**NOTE: Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory ([www.ahridirectory.org](http://www.ahridirectory.org)) for the most up-to-date ratings information.**

### INDUSTRY LEADING FEATURES / BENEFITS

#### Energy Efficiency

- 14 - 15 SEER/11.5 - 12.5 EER/8.2 - 8.5 HSPF  
(Based on tested combinations)

#### Sound

- Levels as low as 69 dBA

#### Design Features

- Small footprint
- WeatherArmor™ cabinet
  - All steel cabinet construction
  - Mesh coil guard

#### Reliability, Quality and Toughness

- Scroll compressor
- Factory-supplied filter drier
- High pressure switch
- Low pressure switch
- Accumulator
- Line lengths up to 250' (76.2 m)
- Low ambient operation  
(down to -20°F/-28.9°C with low ambient accessories)

## MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13
N	N	A	A	A/N	N	N	N	A/N	A/N	A/N	N	N
2	5											
		H	H	A	4	1	8	A	0	0	3	0
Product Series	Product Family	Product Type	Major Series	SEER	Cooling Capacity	Variations	Open	Open	Voltage	Minor Series		
25=HP	H = HP	H = Horizontal Discharge		4 = 14 SEER		A=Standard	0=Not Defined	0=Not Defined	3=208/230-1 5=208/230-3 6=460/3	0, 1, 2...		



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to [www.ahridirectory.org](http://www.ahridirectory.org).



## PHYSICAL DATA

UNIT SIZE – SERIES	18–30	24–30	30–30	36–30, 50, 60	48–30, 50, 60	60–30, 50, 60
<b>COMPRESSOR TYPE</b>	Scroll					
<b>REFRIGERANT</b>	Puron® (R-410A)					
Control	TXV (Puron Hard Shutoff)					
Charge lb (kg)	6.72 (3.05)	7.67 (3.48)	12.07 (5.47)	12.32 (5.59)	10.95 (4.97)	11.82 (5.36)
<b>COND FAN</b>	Propeller Type, Direct Drive					
Air Discharge	Horizontal					
Air Qty (CFM)	1285	1285	2615	2615	2785	2785
Motor HP	1/12	1/12	1/4	1/4	1/4	1/4
Motor RPM	800	800	800	800	800	800
<b>COND COIL</b>						
Face Area (Sq ft)	5.8	7.3	12.1	12.1	14.1	14.1
Fins per In.	20	20	20	20	20	20
Rows	2	2	2	2	2	2
Circuits	3	3	6	5	6	6
<b>VALVE CONNECT. (In. ID)</b>						
Vapor	5/8	3/4	3/4	7/8	7/8	7/8
Liquid	3/8					
<b>REFRIGERANT TUBES* (In. OD)</b>						
Rated Vapor*	5/8	3/4	3/4	7/8	7/8	1 1/8
Max Liquid Line†	3/8					

\* Units are rated with 25 ft (7.6 m) of lineset length. See Vapor Line Sizing and Cooling Capacity Loss table when using other sizes and lengths of lineset.  
**Note:** See unit Installation Instruction for proper installation.

† See *Liquid Line Sizing For Cooling Only Systems with Puron Refrigerant* tables.

## ELECTRICAL DATA

UNIT SIZE – voltage, series	V/PH	OPER VOLTS*		COMPR		FAN	MCA	MAX FUSE** or CKT BRK AMPS
		MAX	MIN	LRA	RLA	FLA		
18–30	208/230/1	253	197	48.0	9.0	0.50	11.8	20
24–30				58.3	12.8	0.50	16.5	25
30–30				64.0	12.8	1.20	17.2	30
36–30				77.0	14.2	1.20	19.0	30
48–30				117.0	21.8	1.45	28.8	50
60–30				144.2	25.5	1.45	33.4	50
36–50	208/230/3	253	197	71.0	9.3	1.20	12.8	20
48–50				83.1	13.7	1.45	18.6	30
60–50				110.0	17.1	1.45	22.9	40
36–60	460/3	506	414	38.0	5.6	0.60	7.6	15
48–60				41.0	6.2	0.80	8.6	15
60–60				52.0	7.8	0.80	10.6	15

### LEGEND:

FLA – Full Load Amps

HACR – Heating, Air Conditioning, Refrigeration

LRA – Locked Rotor Amps

NEC – National Electrical Code

RLA – Rated Load Amps (compressor)

\* Permissible limits of the voltage range at which the unit will operate satisfactorily

\*\* Time-Delay fuse.

Complies with 2007 requirements of ASHRAE Standards 90.1

## A-WEIGHTED SOUND POWER (dBA)

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dBA, without tone adjustment)						
		125	250	500	1000	2000	4000	8000
18	70	53.5	59.5	61.5	65.5	59.5	55.5	46.0
24	69	53.0	63.0	63.0	62.5	59.0	54.0	50.5
30	72	58.0	61.0	64.0	66.5	64.0	63.5	57.0
36	71	60.5	60.5	64.0	65.5	64.0	62.0	56.5
48	73	60.0	59.0	65.0	68.0	64.0	61.0	55.5
60	74	70.0	62.0	65.0	66.0	64.5	64.0	57.5

NOTE: Tested in accordance with AHRI Standard 270–08 (not listed in AHRI).

## A-WEIGHTED SOUND POWER (dBA) WITH ACCESSORY SOUND SHIELD

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dBA, without tone adjustment)						
		125	250	500	1000	2000	4000	8000
18	N/A	–	–	–	–	–	–	–
24	N/A	–	–	–	–	–	–	–
30	71	57.5	61.0	63.5	65.5	63.0	63.5	57.0
36	70	59.5	60.5	63.0	64.5	63.0	61.5	56.0
48	72	56.5	59.5	63.5	67.5	64.0	60.5	55.0
60	72	62.0	60.5	64.5	65.0	64.0	63.5	54.5

### NOTES:

Tested in accordance with AHRI Standard 270–08 (not listed in AHRI).

Accessory sound shield will not accommodate unit sizes 18 and 24.

## CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE – SERIES	REQUIRED SUBCOOLING ° F (° C)
18	12 (6.7)
24	14 (7.8)
30	11 (6.1)
36	14 (7.8)
48	11 (6.1)
60	12 (6.7)

# DIMENSIONS - ENGLISH

UNIT	SERIES	ELECTRICAL CHARACTERISTICS				A	B	C	D	E	F	G	H	J	K	L	M	N	P	OPERATING WEIGHT(lbs)	SHIPPING WEIGHT(lbs)	SHIPPING DIMENSIONS (L x W x H)
25HHA418	0	X	0	0	0	25 1/8"	36 15/16"	14 9/16"	16"	23 7/16"	17 3/16"	17 1/8"	22 1/16"	13"	6 5/8"	11 1/4"	5/8"	2 7/8"	4 15/16"	150	170	42 15/16" X 18" X 28 1/8"
25HHA424	0	X	0	0	0	31 1/8"	36 15/16"	14 9/16"	16"	23 7/16"	17 3/16"	23 1/8"	28 1/16"	14"	6 3/4"	11 5/8"	3/4"	2 7/8"	4 15/16"	161	181	42 15/16" X 18" X 34 1/8"
25HHA430	0	X	0	0	0	37 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	29 1/8"	34 1/16"	13 11/16"	8 1/8"	15 7/8"	3/4"	3 3/8"	5 1/2"	196	226	50 1/2" X 20 1/2" X 40 1/8"
25HHA436	0	X	0	X	X	37 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	29 1/8"	34 1/16"	13 11/16"	8 1/8"	15 7/8"	7/8"	3 3/8"	5 1/2"	197	227	50 1/2" X 20 1/2" X 40 1/8"
25HHA448	0	X	0	X	X	43 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	35 1/8"	40 1/16"	14 1/2"	8 1/2"	18 7/8"	7/8"	3 3/8"	5 1/2"	246	276	50 1/2" X 20 1/2" X 46 1/8"
25HHA460	0	X	0	X	X	43 1/8"	44 1/2"	17 1/16"	18 7/16"	30 1/2"	19 5/8"	35 1/8"	40 1/16"	14 1/2"	8 1/2"	18 7/8"	7/8"	3 3/8"	5 1/2"	258	288	50 1/2" X 20 1/2" X 46 1/8"

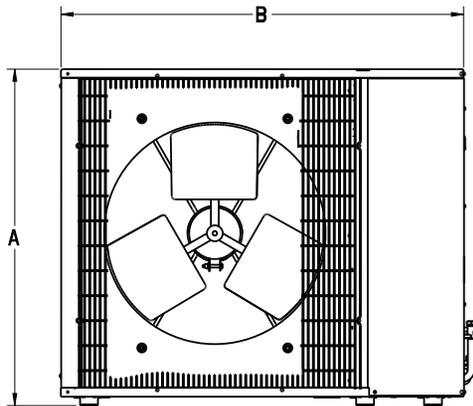
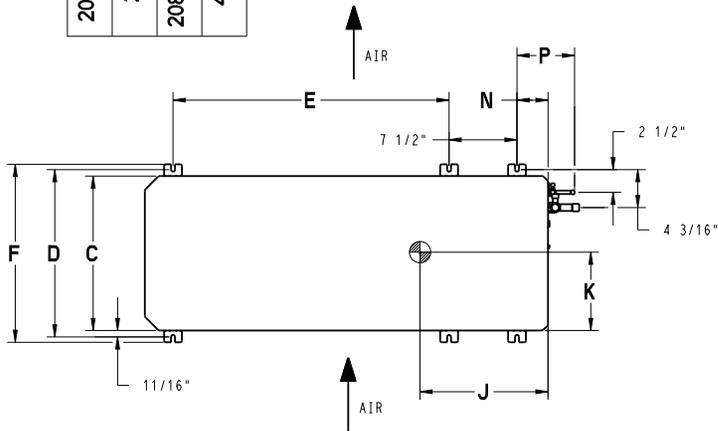
208-230-160	230-160	208/230-360	460-360
-------------	---------	-------------	---------

X = YES  
O = NO

1. CLEARANCE REQUIREMENTS: SINGLE UNIT APPLICATIONS: WITH COIL FACING WALL: ALLOW 6 IN. MINIMUM CLEARANCE ON COIL SIDE AND COIL END AND 20 IN. MINIMUM CLEARANCE ON FAN SIDE. WITH FAN FACING WALL: ALLOW 8 IN. MINIMUM CLEARANCE ON FAN SIDE AND 6 IN. ON COIL END AND 20 IN. MINIMUM CLEARANCE ON COIL SIDE. MULTI-UNIT APPLICATIONS: ALLOW 24 IN. MINIMUM CLEARANCE BETWEEN FAN AND COIL SIDES OF MULTIPLE UNITS. ARRANGE UNITS SO DISCHARGE OF ONE DOES NOT ENTER INLET OF ANOTHER. WHEN TWO UNITS ARE INSTALLED END TO END WITH THE COIL ENDS FACING EACH OTHER ALLOW 12 IN. MINIMUM CLEARANCE BETWEEN UNITS. COMPRESSOR END SERVICE CLEARANCE: ALLOW 24 IN. MINIMUM CLEARANCE ON COMPRESSOR END WHEN UNITS ARE STACKED OR THERE IS LESS THAN 40 IN. OF CLEARANCE ABOVE THE TOP OF THE UNIT. IF THERE IS 40 IN. CLEARANCE ABOVE UNIT AND THE TOP PANEL IS ACCESSIBLE FOR REMOVAL ALLOW 8 IN. MINIMUM CLEARANCE ON COMPRESSOR END FOR SERVICE.

IMPORTANT: WHEN INSTALLING SINGLE OR MULTIPLE UNITS IN AN ALCOVE, ROOF WELL, OR PARTIALLY ENCLOSED AREA, ENSURE THERE IS ADEQUATE VENTILATION TO PREVENT RECIRCULATION OF DISCHARGE AIR.

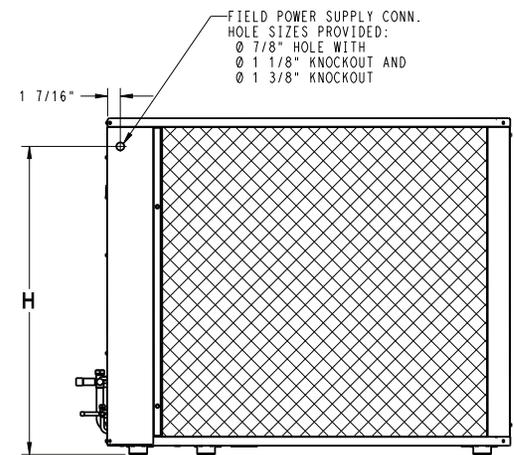
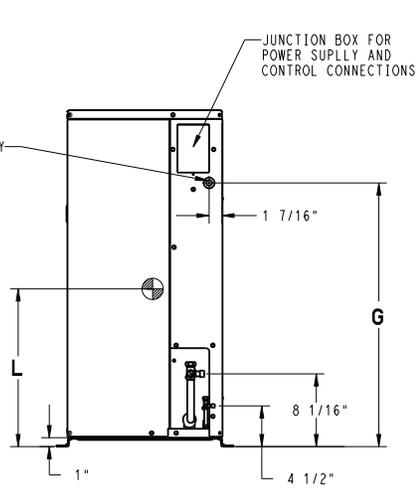
2. MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 125°F.
3. SERIES DESIGNATION IS THE 13TH POSITION OF THE UNIT MODEL NUMBER.
4. CENTER OF GRAVITY
5. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.



FIELD CONTROL SUPPLY WIRE ENTRY 7/8" HOLE W/GROMMET

M VAPOR LINE CONN. FEMALE SWEAT CONN.

Ø 3/8" LIQUID LINE MALE FLARE CONN.



FIELD POWER SUPPLY CONN. HOLE SIZES PROVIDED:  
Ø 7/8" HOLE WITH  
Ø 1 1/8" KNOCKOUT AND  
Ø 1 3/8" KNOCKOUT

UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18, 24	23" X 42"
30, 36, 48, 60	24" X 50"

**ATTACHMENT 3**

**Standby Generator Specifications**

## 16/20/22 kW

### GUARDIAN® SERIES Residential Standby Generators Air-Cooled Gas Engine

#### INCLUDES:

- True Power™ Electrical Technology
- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese)
- Two Transfer Switch Options Available: 100 Amp Pre-Wired Switch or 200 Amp Service Rated Switch. See Page 4 for Details.
- Electronic Governor
- External Main Circuit Breaker, System Status & Maintenance Interval LED Indicators
- GFCI Duplex Outlet
- Sound Attenuated Enclosure
- Flexible Fuel Line Connector
- Composite Mounting Pad
- Natural Gas or LP Gas Operation
- 5 Year Limited Warranty
- Capability to be installed within 18" (457 mm) of a building\*

#### Standby Power Rating

Models 006459-0, 006461-0, 006462-1 (Steel - Bisque) - 16 kW 60 Hz  
 Model 006721-0 (Aluminum - Gray) - 16 kW 60 Hz  
 Models 006729-1, 006730-0 (Steel - Bisque) - 20 kW 60 Hz  
 Models 006551-1, 006552-0 (Aluminum - Gray) - 22 kW 60 Hz



QUIET-TEST™

Note: CUL certification only applies to unbundled units and units packaged with pre-wired switches. Units packaged with the Smart Switch are UL certified in the USA only.

\*Only if located away from doors, windows and fresh air intakes, and unless otherwise directed by local codes.

## FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TRUE POWER™ ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ MOTOR STARTING ABILITY
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ±1%.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES.** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

## THE GENERAC PROMISE



## 16/20/22 kW

**Engine**

- Generac (OHVI) design  
Maximizes engine “breathing” for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings helps the engine run cooler, reducing oil consumption resulting in longer engine life.
- Quiet-Test™  
Greatly reduces sound output and fuel consumption during bi-weekly exercise, compared to other brands.
- “Spiny-lok” cast iron cylinder walls  
Rigid construction and added durability provide long engine life.
- Electronic ignition/spark advance  
These features combine to assure smooth, quick starting every time.
- Full pressure lubrication system  
Pressurized lubrication to all vital bearings means better performance, less maintenance and longer engine life. Now featuring up to a 2 year/200 hour oil change interval.
- Low oil pressure shutdown system  
Shutdown protection prevents catastrophic engine damage due to low oil.
- High temperature shutdown  
Prevents damage due to overheating.

**Generator**

- Revolving field  
Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.
- Skewed stator  
Produces a smooth output waveform for compatibility with electronic equipment.
- Displaced phase excitation  
Maximizes motor starting capability.
- Automatic voltage regulation  
Regulates the output voltage to  $\pm 1\%$  prevents damaging voltage spikes.
- UL 2200 listed  
For your safety.

**Transfer Switch**

- Fully automatic  
Transfers your vital electrical loads to the energized source of power.
- Pre-wired, color-coded conduits (Pre-wired switches only)  
Ensures the easiest, trouble-free installation.
- Remote mounting  
Mounts near your existing distribution panel for simple, low-cost installation.

**Evolution™ Controls**

- Auto/Manual/Off illuminated buttons  
Selects the operating mode and provides easy, at-a-glance status indication in any condition.
- Two-line LCD multilingual display  
Provides homeowners easily visible logs of history, maintenance and events up to 50 occurrences.
- Sealed, raised buttons  
Smooth, weather-resistant user interface for programming and operations.
- Utility voltage sensing  
Constantly monitors utility voltage, setpoints 60% dropout, 80% pick-up, of standard voltage.
- Generator voltage sensing  
Constantly monitors generator voltage to ensure the cleanest power delivered to the home.
- Utility interrupt delay  
Prevents nuisance start-ups of the engine, adjustable 2-1500 seconds from the factory default setting of 5 seconds by a qualified dealer.
- Engine warm-up  
Ensures engine is ready to assume the load, setpoint approximately 5 seconds.
- Engine cool-down  
Allows engine to cool prior to shutdown, setpoint approximately 1 minute.
- Programmable exerciser  
Operates engine to prevent oil seal drying and damage between power outages by running the generator for 5 minutes every other week. Also offers a selectable setting for weekly or monthly operation providing flexibility and potentially lower fuel costs to the owner.
- Smart battery charger  
Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature.
- Electronic governor  
Maintains constant 60 Hz frequency.

**Unit**

- SAE weather protective enclosure  
Sound attenuated enclosure ensures quiet operation and protection against mother nature, withstanding winds up to 150 mph. Hinged key locking roof panel for security. Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.
- Enclosed critical grade muffler  
Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
- Small, compact, attractive  
Makes for an easy, eye appealing installation, as close as 18" away from a building.\*

**Installation System**

- 1 ft (305 mm) flexible fuel line connector  
Absorbs any generator vibration when connected to rigid pipe.
- Composite mounting pad  
Eliminates the need to pour a concrete pad unless required by local municipalities.

## 16/20/22 kW

### Generator

Model	006459-0, 006461-0, 006462-1, 006721-0 (16 kW)	006729-1, 006730-0, (20 kW)	006551-1, 006552-0 (22 kW)
Rated Maximum Continuous Power Capacity (LP)	16,000 Watts*	20,000 Watts*	22,000 Watts*
Rated Maximum Continuous Power Capacity (NG)	16,000 Watts*	18,000 Watts*	19,500 Watts*
Rated Voltage	240	240	240
Rated Maximum Continuous Load Current – 240 Volts (LP/NG)	66.6/66.6	83.3/75	91.6/81.3
Total Harmonic Distortion	Less than 5%	Less than 5%	Less than 5%
Main Line Circuit Breaker	65 Amp	90 Amp	100 Amp
Phase	1	1	1
Number of Rotor Poles	2	2	2
Rated AC Frequency	60 Hz	60 Hz	60 Hz
Power Factor	1.0	1.0	1.0
Battery Requirement (not included)	Group 26R, 12 Volts and 525 CCA Minimum		
Unit Weight (lb/kg)	513/232.7 (Steel); 448/203.2 (Aluminum)	516/234.1	526/238.6
Dimensions (L x W x H) in/mm	48 x 25 x 29/1218 x 638 x 732		
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load**	66	66	67
Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode**	60	60	58
Exercise duration	5 min	5 min	5 min

### Engine

Type of Engine	GENERAC OHVI V-TWIN	GENERAC OHVI V-TWIN	GENERAC OHVI V-TWIN
Number of Cylinders	2	2	2
Displacement	992 cc	999 cc	999 cc
Cylinder Block	Aluminum w/ Cast Iron Sleeve		
Valve Arrangement	Overhead Valve	Overhead Valve	Overhead Valve
Ignition System	Solid-state w/ Magneto	Solid-state w/ Magneto	Solid-state w/ Magneto
Governor System	Electronic	Electronic	Electronic
Compression Ratio	9.5:1	9.5:1	9.5:1
Starter	12 Vdc	12 Vdc	12 Vdc
Oil Capacity Including Filter	Approx. 1.9 qt/1.8 L	Approx. 1.9 qt/1.8 L	Approx. 1.9 qt/1.8 L
Operating rpm	3,600	3,600	3,600
Fuel Consumption			
Natural Gas	ft <sup>3</sup> /hr (m <sup>3</sup> /hr)		
1/2 Load	193 (5.47)	205 (5.8)	184 (5.21)
Full Load	312 (8.83)	308 (8.72)	281 (7.96)
Liquid Propane	ft <sup>3</sup> /hr (gal/hr) [l/hr]		
1/2 Load	72.4 (1.99) [7.53]	75.6 (2.08) [7.87]	83 (2.16) [8.16]
Full Load	130 (3.19) [13.53]	140 (3.85) [14.57]	127 (3.68) [13.99]

Note: **Fuel pipe must be sized for full load.** Required fuel pressure to generator fuel inlet at all load ranges - 3.5-7" water column (7-13 mm mercury) for natural gas, 10-12" water column (19-22 mm mercury) for LP gas. For Btu content, multiply ft<sup>3</sup>/hr x 2500 (LP) or ft<sup>3</sup>/hr x 1000 (NG). For Megajoule content, multiply m<sup>3</sup>/hr x 93.15 (LP) or m<sup>3</sup>/hr x 37.26 (NG)

### Controls

2-Line Plain Text Multilingual LCD Display	Simple user interface for ease of operation.
Mode Buttons:	Automatic Start on Utility failure. 7 day exerciser.
Auto	
Manual	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Off	Stops unit. Power is removed. Control and charger still operate.
Ready to Run/Maintenance Messages	Standard
Engine Run Hours Indication	Standard
Programmable start delay between 2-1500 seconds	Standard (programmable by dealer only)
Utility Voltage Loss/Return to Utility Adjustable (Brownout Setting)	From 140-171 V/190-216 V
Future Set Capable Exerciser/Exercise Set Error Warning	Standard
Run/Alarm/Maintenance Logs	50 Events Each
Engine Start Sequence	Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration).
Starter Lock-out	Starter cannot re-engage until 5 sec after engine has stopped.
Smart Battery Charger	Standard
Charger Fault/Missing AC Warning	Standard
Low Battery/Battery Problem Protection and Battery Condition Indication	Standard
Automatic Voltage Regulation with Over and Under Voltage Protection	Standard
Under-Frequency/Overload/Stepper Overcurrent Protection	Standard
Safety Fused/Fuse Problem Protection	Standard
Automatic Low Oil Pressure/High Oil Temperature Shutdown	Standard
Overcrank/Overspeed (@ 72 Hz)/rpm Sense Loss Shutdown	Standard
High Engine Temperature Shutdown	Standard
Internal Fault/Incorrect Wiring Protection	Standard
Common External Fault Capability	Standard
Field Upgradable Firmware	Standard

\*\*Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters. Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. Maximum power decreases about 3.5 percent for each 1,000 feet (304.8 meters) above sea level; and also will decrease about 1 percent for each 6 °C (10 °F) above 16 °C (60 °F).

# 16/20/22 kW

## switch options

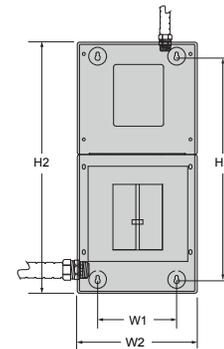
### Pre-wired Features

available on Steel 16 kW models only

- Electrically operated, mechanically-held contacts for fast, positive connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2 pole, 250 VAC contactors.
- 30 millisecond transfer time.
- Dual coil design.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA 1 (indoor rated) enclosure is standard on the pre-wired switch.
- Pre-wired 30 foot (9.1 meter) whip to connect to the provided 5 foot pre-wired whip and external connection box.
- Pre-wired 2 foot (0.61 meter) whip, color coded to connect into the existing electrical panel.

Model	006461-0 (16 kW)
No. of Poles	2
Current Rating (Amps)	100
Voltage Rating (VAC)	120/240, 1Ø
Utility Voltage Monitor (Fixed)*	
-Pick-up	80%
-Dropout	60%
Return to Utility*	approx. 15 sec.
Exercise weekly for 12 minutes*	Standard
UL Listed	Standard
Total of Pre-wired Circuits	16
No. 15 A 120 V	5
No. 20 A 120 V	5
No. 20 A 240 V	1
No. 30 A 240 V	-
No. 40 A 240 V	1
No. 50 A 240 V	1
Circuit Breaker Protected	
Available RMS Symmetrical Fault Current @ 250 Volts	10,000

\*Function of Evolution Controller



### Dimensions

Mechanical Dimensions					
	Height		Width		Depth
	H1	H2	W1	W2	
in	23.5	26.4	8.3	12.6	6.3
mm	597	671.7	211	320.7	159.6

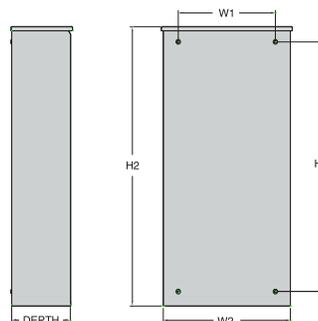
Wire Ranges		
Conductor Lug	Neutral Lug	Ground Lug
2/0 - #14	2/0 - #14	2/0 - #14

### Service Rated Switch Features

- Electrically operated, mechanically-held contacts for fast, clean connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2 pole, 250 VAC contactors.
- Service equipment rated, dual coil design.
- Rated for both aluminum and copper conductors.
- NEMA/UL 3R aluminum outdoor enclosure.
- Main contacts are silver plated or silver alloy to resist welding and sticking.

Model	006462-1 (16 kW)/006729-1 (20 kW)/006551-1 (22 kW)
No. of Poles	2
Current Rating (Amps)	200
Voltage Rating (VAC)	120/240, 1Ø
Utility Voltage Monitor (Fixed)*	
-Pick-up	80%
-Dropout	60%
Return to Utility*	approx. 13 sec.
Exercise weekly for 12 minutes*	Standard
UL Listed	Standard
Enclosure Type	NEMA/UL 3R
Withstand Rating (Amps)	22,000
Lug Range	250 MCM - #6

\*Function of Evolution Controller



### Dimensions

	200 Amps 120/240, 1Ø Open Transition Service Rated				
	Height		Width		Depth
	H1	H2	W1	W2	
in	27.24	30.0	11.4	13.5	7.09
mm	692.0	762.4	289.0	343.0	180.0

**16/20/22 kW**

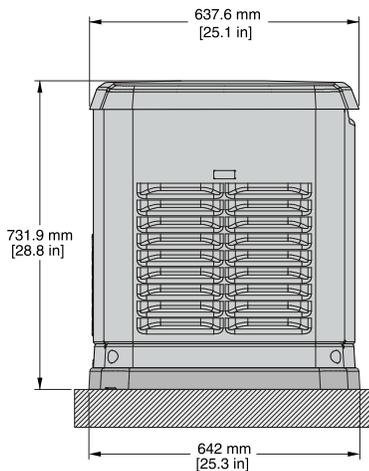
**available accessories**

Model #	Product	Description
006463-3	Mobile Link™	Generac's Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message.
005819-0	26R Wet Cell Battery	Every standby generator requires a battery to start the system. Generac offers the recommended 26R wet cell battery for use with all air-cooled standby product (excluding PowerPact®).
006212-0	Cold Weather Kit	If the temperature regularly falls below 32 °F (0 °C), a cold weather kit is required to maintain optimal battery and oil temperatures. Kit consists of a battery warmer and oil filter heater with built-in thermostats.
005621-0	Auxiliary Transfer Switch Contact Kit	The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load you may not need. Not compatible with 50 amp pre-wired switches.
005839-0 - Bisque 005666-0 - Gray	Fascia Base Wrap Kit* (Standard on 22 kW)	The fascia base wrap snaps together around the bottom of the new air cooled generators. This offers a sleek, contoured appearance as well as offering protection from rodents and insects by covering the lifting holes located in the base.
005703-0 - Bisque 005704-0 - Gray	Paint Kit*	If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch-up a generator enclosure.
006484-0 - 16 kW 006485-0 - 20 & 22 kW	Scheduled Maintenance Kit	Generac's scheduled maintenance kits provide all the hardware necessary to perform complete routine maintenance on a Generac automatic standby generator.
006664-0	Wireless Remote Monitor	Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house. Not compatible with CorePower or EcoGen systems.
006873-0	Smart Management Module (50 Amps)	Smart Management Modules are used in conjunction with the Automatic Transfer Switch to increase its power management capabilities. It provides additional power management flexibility not found in any other power management system.

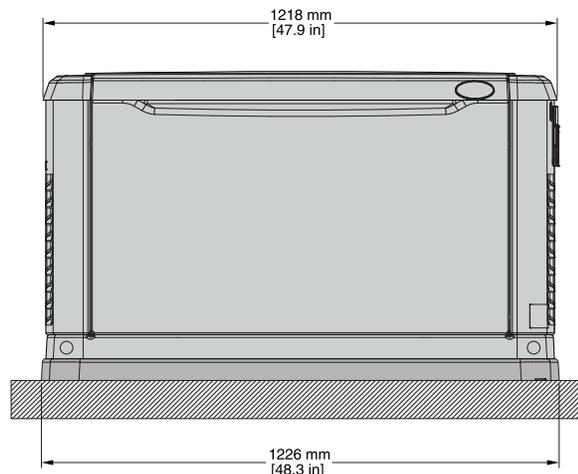
\* Note: Bisque kits are used in conjunction with steel enclosures. Gray kits are used in conjunction with aluminum enclosures.

**dimensions & UPCs**

Dimensions shown are approximate. Refer to installation manual for exact dimensions. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



LEFT SIDE VIEW



FRONT VIEW

Model	UPC
006459-0	696471064599
0064610	696471064612
006721-0	696471067217
006729-1	696471067293
006730-0	696471067309
006551-1	696471065510
006552-0	696471065527
006462-1	696471064629

**ATTACHMENT 4**

**Noise Calculations and SoundPLAN Data**

## Modeling Results Table - Traffic Noise

Receiver Name	Description	Noise Level dB(A)	
		1st Floor	2nd Floor
PAT-1	Second-story Patio	0	59
FAC-1	Western Façade	52	57
FAC-2	Northern Façade	65	67
FAC-3A	Eastern Façade	61	0
FAC-3B	Eastern Façade	60	64
FAC-4	Southern Façade	43	44

## **Emergency Response Vehicles - Noise**

### ***Siren Noise Levels***

Noise Level	120 dB(A) at	10 feet
SPL	1E+12 SPL at	10 feet

### ***Noise at Lucera Residences - 370 feet***

Trips per Day	11 trips	
Trips per Hour	1 trip	
Time to Leave Driveway	10 seconds	
Time to Leave Driveway	0.167 minutes	
Exposure per Hour	0.167 minutes	
Exterior Lmax	88.6 dB(A) at	370 feet
Hourly Leq	63.1 dB(A) at	370 feet

### ***Noise at Capri Residences - 65 feet***

Trips per Day	8 trips	
Trips per Hour	1 trip	
Time to Pass	5 seconds	
Time to Pass	0.083 minutes	
Exposure per Hour	0.083 minutes	
Exterior Lmax	103.7 dB(A) at	65 feet
Hourly Leq	75.2 dB(A) at	65 feet

# Equipment Noise Levels

## Total Project Equipment

Phase	Piece	Number
Grading	Excavators	2
	Rubber Tired Dozer	1
	Water Trucks	1
	Graders	1

## Maximum Simultaneously Active Equipment

Phase	Piece	Number	Individual Noise Level (dB[A] at 50 feet)	Acoustical Usage Factor	Sound Power Level	Cumulative Noise Level (dB[A] at 50 feet)
Grading	Excavators	1	85	0.4	126491106	84.0
	Rubber Tired Dozer	1	85	0.4	126491106	
	Water Trucks	0	84	0.4	0	
	Graders	0	85	0.4	0	

Type	Ground Type	Reference Leq (dBA)	Reference Distance (Feet)	Directionality Factor (1 = in air) (2 = over flat plane) (4 = against wall) (8 = corner of a room)	Sound Power Level SPL (dBA)
Point	Hard	84.0	50	2	115.7

## Modeling Results Table - Construction Noise

Receiver Name	Description	Noise Level dB(A)		
		1st Floor	2nd Floor	3rd Floor
BOUND-1	Southern Site Boundary	68	68	69
BOUND-2	Southern Site Boundary	70	71	72
BOUND-3	Southern Site Boundary	76	78	78
BOUND-4	Southern Site Boundary	76	79	80
BOUND-5	Southern Site Boundary	74	76	78
BOUND-6	Southern Site Boundary	78	77	77
BOUND-7	Southern Site Boundary	67	70	71
BOUND-8	Southern Site Boundary	62	66	67
BOUND-9	Northwest of Site	66	67	68
RES-1	Lucera Apartments	64	64	65
RES-2	Lucera Apartments	65	66	67
RES-3	Lucera Apartments	66	66	67
RES-4	Lucera Apartments	65	66	66

## Modeling Results Table - Mechanical Equipment Noise

Receiver Name	Description	Noise Level dB(A)		
		1st Floor	2nd Floor	3rd Floor
BOUND-1	Southern Site Boundary	36	36	38
BOUND-2	Southern Site Boundary	40	41	42
BOUND-3	Southern Site Boundary	42	44	47
BOUND-4	Southern Site Boundary	35	37	41
BOUND-5	Southern Site Boundary	35	36	36
RES-1	Lucera Apartments	33	34	35
RES-2	Lucera Apartments	34	35	36
RES-3	Lucera Apartments	32	33	34

**EXHIBIT H**  
**TRAFFIC MEMORANDUM**



# E-MEMO

**ATTN:** *Scott Maas* **E-Mail:** *scott@safdierabines.com*  
*Safdie Rabines Architects*

**FROM:** *Mike Inerowicz & Justin P. Schlaefli, PE, TE, PTOE* **TOTAL PAGES (Including Cover):** 20 + Appendix

**DATE:** *March 1, 2017* **TIME:** 7:06:21 **JOB NUMBER:** 001815  
**PM**

**SUBJECT:** *Fire Station 50 – Traffic Memorandum*

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The purpose of this memo is to evaluate potential traffic impacts that may be associated with the proposed construction of the new Fire Station 50 (hereafter referred to as the “project”) in University City. The City of San Diego has retained Urban Systems to evaluate access and potential traffic impacts as part of the Bridging Documents for the University Fire Station 50 Design-Build Project. The project proposes to construct a 12,347 square foot fire station on a 0.88 acre parcel. The fire station is proposed to be located on the southeast quadrant of the intersection at Nobel Drive and Shoreline Drive. A Site Plan is shown in **Attachment 1**.

### 1. Trip Generation

The proposed project is expected to generate 53 average daily trips (ADT) with 26 (13 inbound / 13 outbound) AM peak hour trips and 6 PM (3 inbound / 3 outbound) peak hour trips. **Attachment 2** includes the trip generation table. As noted in the trip generation table, the City of San Diego *Trip Generation Manual* and *ITE Trip Generation Manual* (9<sup>th</sup> Edition) does not provide a daily trip rate for fire stations. Therefore, the trip generation for Fire Station 50 was based on information provided by the City’s Fire Department. As shown in **Attachment 2**, Fire Station 50 generates traffic from employees and incidents (engine and truck responses). Since the fire personnel (employees in trip generation table) typically operate on a 24 hour shift which is expected to begin between 7 – 8 AM, there are no PM peak hour trips assumed for the employees. Therefore, all 20 daily trips generated by the employees occur in the AM peak hour. Based on information gathered by the City’s Fire Department in the University City area, the total number of incidents or “calls” in 2014 split between Fire Station 35, 27, and 9 was 3,967. This number was used to estimate incidents for Fire Station 50.

On a daily basis, this calculates to be an average of 11 calls per day throughout the year (3,967 / 365). Based on these assumptions, the 11 average calls per day would generate 33 ADT's with 6 AM peak hour trips and 6 PM peak hour trips. The trip generation for the incidents assumes 2 of the 11 average daily calls would occur in both in the AM and PM peak hour, therefore, a 20% peak was used. This percentage (incidents occurring during the peak hour) was determined based on previous year data, for the analyzed area, taking into account variability of incidents occurring during the peak hour. Data was obtained from SDFD Response Planning. See **Attachment 3** for Fire Station jurisdictional zones in the University City area and **Attachment 4** for incident information provided by Response Planning from the City's Fire Department.

## **2. Existing Conditions**

For purposes of this analysis, two roadway segments on Nobel Drive directly east and west of Shoreline Dr. and the intersection of Nobel Drive at Shoreline Drive were evaluated as they currently exist today. **Attachment 5** shows the study locations. Traffic counts were obtained on Thursday, November 12, 2015 to be used for analysis at each study location.

Nobel Drive has been built to its ultimate classification per the University Community Plan as a six (6) lane Primary Arterial with a level of service E capacity of 60,000 ADT from Towne Centre Drive to I-805 Interchange. Raised medians are provided on Nobel Drive from Towne Centre Drive to the I-805 Interchange. Class II bike lanes and sidewalks are included on both sides of the roadway. On-street parking is prohibited along both sides of the roadway. The roadway width of Nobel Drive just east of Shoreline Drive is 98 feet curb to curb and the posted speed limit is 45 mph. Bus Route 204 (Superloop) currently travels along Nobel Drive which connects to the UTC Transit Center. There is an existing bus stop on Nobel Drive approximately 175 feet west of Shoreline Drive on the north side of the street for Bus Route 204.

Traffic counts were collected on Thursday, November 12, 2015. Nobel Drive between Towne Centre Drive and Shoreline Drive has an existing volume of 14,413 ADT. Nobel Drive between Judicial Drive and Shoreline Drive has an existing volume of 16,536 ADT. Based on a level of service "E" capacity of 60,000 ADT on Nobel Drive, both of these roadway segments currently operate at level of service "A" which is considered acceptable to the City of San Diego.

The intersection of Nobel Drive at Shoreline Drive was analyzed in both the AM and PM peak hour. The existing lane geometry is shown in the site plan (**Attachment 1**). In the existing condition, this intersection currently operates at level of service “C” in both the AM and PM peak hour which is considered acceptable to the City of San Diego. **Attachment 6** shows the street segment and intersection levels of service for the existing condition.

### **3. Project Trip Distribution & Assignment**

**Attachment 7** shows the project only trip distribution percentages based on a working knowledge of the area, incident locations in the University area, and discussions with the Fire Department. As shown, 70% of traffic generated by the project is assumed to travel west on Nobel Drive to assist calls in the vicinity of Fire Station 35 to the north, Fire Station 9 to the west, and Fire Station 27 to the south. Shoreline Drive is assumed 5% travel to/from the north and Nobel Drive assumes 25% travel to/from the east. Ingress and egress of the proposed fire station is discussed in Section 5.0 (Project Access) of this memo. Project only average daily traffic volumes found in **Attachment 7** are based on the daily trip generation from **Attachment 2** and distribution of project only traffic.

### **4. Existing With Project**

Street segment level of service with project traffic was determined by adding expected project only daily volumes to the counted existing daily volumes. **Attachment 8** shows street segment level of service with the addition of Fire Station 50 project traffic. As shown, both study street segments on Nobel Drive are projected to operate at acceptable levels of service i.e. LOS A.

Project traffic for the AM and PM peak hours were added to existing traffic at the intersection of Nobel Drive at Shoreline Drive. Intersection delays and level of service for the Existing With Project peak hour traffic is provided in **Attachment 8** which shows Nobel Drive at Shoreline Drive is projected to operate at an acceptable level of service i.e. LOS C in the AM peak hour and LOS D in the PM peak hour.

A project impact occurs if project traffic causes a street segment or intersection to operate at an unacceptable level of service i.e. LOS “E” or “F” and/or exceeds the significance thresholds outlined in the City’s *Significant Determination Thresholds* (April 2004). **Attachment 9** shows the street segment and intersection LOS comparison tables. As shown, both study street segments and the intersection of Nobel Drive / Shoreline Drive

operate at acceptable levels of service without and with Fire Station 50. There are no direct significant impacts to study street segments or intersection as a result of the proposed Fire Station 50. Therefore, no mitigation is required.

## **5. Project Access**

Access to the project will be provided by way of a new driveway at the east side of the cul-de-sac just south of Nobel Drive / Shoreline Drive, refer to the site plan in **Attachment 1**. Emergency vehicles entering the fire station would travel south into the cul-de-sac and turn left into the new driveway. Trucks would then park in the new Apparatus Bay. A secondary driveway connects the Apparatus Bay to Nobel Drive for emergency vehicles to exit onto Nobel Drive. This site design allows for one-way circulation of emergency vehicles through the Apparatus Bay. A median cut will be constructed directly across from the new driveway on Nobel Drive to allow left turn movements for emergency vehicles only onto Nobel Drive. An emergency-vehicle traffic control signal will be installed on Nobel Drive to stop the eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. Contractor will be responsible for the installation of the new emergency-vehicle traffic signal at the Fire Station driveway on Nobel Drive. As part of this work the contractor must make an opening in the median incorporating all necessary safety devices, which are present in the median opening at San Diego Fire Station 45, and wide enough for turning fire trucks. The traffic signal will include three traffic signal poles with traffic signal mast arms and luminaire mast arms, and also will include pedestrian signals and truncated domes for the fire station driveway. No detection is required except for the emergency vehicle detector (EVP) pointing at the fire station driveway. Keep Clear striping and various signage will also be required. The contractor will need to work with SDG&E to obtain the necessary electrical service point. Installation of conduits, wiring and cabling, electrical service meter pedestal, fully loaded traffic controller cabinet, all necessary pull boxes, and any other equipment will be required for a fully operational emergency-vehicle traffic signal. Contractor will also need to trench the necessary conduits in order to be able to interconnect the new emergency-traffic signal with the traffic signal at Nobel Dr. and Shoreline Dr.

The purpose of the emergency-vehicle traffic signal is to assign the right-of-way to an authorized emergency vehicle upon preemption when exiting from the fire station driveway onto Nobel Drive. When a fire truck exits the driveway onto Nobel Drive, the Emergency Vehicle Preemption sensor (EVP) would stop the eastbound and westbound traffic (red indication) at the newly constructed emergency-vehicle traffic signal in addition to providing a green indication for the emergency vehicle exiting the driveway. The preempt event would also trigger a green indication in the westbound direction at the existing Nobel Drive / Shoreline Drive signal. This

green indication would assign the right-of-way to an emergency vehicle at the Nobel Drive / Shoreline Drive signal after it has made a left turn onto Nobel Drive. All other approaches at the existing intersection would have a red indication for the duration of the preemption. The two signals would be interconnected. A signal similar to the one proposed for Fire Station 50 was recently installed at Fire Station 45 in Mission Valley. Examples of other fire stations in San Diego with similar on-site circulation and emergency access are provided in the appendices of this study.

A vehicle swept path analysis was prepared by Safdie Rabines Architects using computer software known as Auto-Turn to determine if a fire truck could adequately enter and exit the proposed fire station. Truck access into the site from Nobel Drive was determined to be undesirable, because the drive aisle would need to be significantly expanded into the steep slope area, in order for the fire truck to make the right turn into the driveway from the outside lane as shown in **Attachment 10**. In addition, the fire department preferred not to exit onto the cul-de-sac when leaving for an incident since they are not able to control residential traffic from the south.

A similar vehicle swept path analysis was used to determine if a fire truck could enter the Shoreline Drive cul-de-sac traveling eastbound on Nobel Drive and exiting onto Nobel Drive. As shown in **Attachment 11**, the fire trucks can turn right into the cul-de-sac without encroaching into the opposing travel lane and then turn left into the proposed fire station. As shown, the fire truck can adequately exit the station and turn right onto Nobel Drive. **Attachment 12** shows a similar path, however, the fire truck exiting the station is turning left onto Nobel Drive. Although many options were studied, this proposed design was selected by the Fire Department and City Engineering / Public Works Department.

## **6. Queuing Analysis**

The proposed median cut on Nobel Drive would be constructed within the existing westbound to southbound left turn pocket into the cul-de-sac. The westbound left turn pocket length is approximately 250 feet. The analysis shows an expected 95<sup>th</sup> percentile queue for the existing with project is approximately 30 feet in the AM peak hour and 74 feet in the PM peak hour for the westbound left turn. Therefore, traffic in this left turn pocket would not be expected to block emergency vehicles using the median cut on Nobel Drive as illustrated in **Attachment 13**.

## **7. Parking Analysis**

Fire Station 50 is providing a total of 14 parking spaces on-site plus one ADA space. Parking for employees of the fire station is provided on-site just east of the Shoreline Drive cul-de-sac. Two parking spaces located east of the building are extra spaces accessible by moving smaller vehicles parked in the middle bay. Ingress and egress for employees would be provided via the new driveway on the cul-de-sac. Employee traffic would only use the cul-de-sac driveway to enter and exit the proposed project. Employees will enter through a secured access gate and park within the site. As a result of the new fire station driveway in the cul-de-sac, on-street parking would be reduced by approximately 3 to 4 spaces.

## **8. Construction Traffic**

Traffic impacts expected during construction were evaluated and determined to be less than the proposed project. As shown in **Attachment 14**, construction traffic is expected to generate approximately 48 ADT's with 3 AM peak hour trips and 3 PM peak hour trips. The construction traffic is expected to be less than what the proposed Fire Station would generate on a daily and peak hour basis. Since there are no significant impacts related to project traffic, construction traffic is not expected to result in any significant impacts.

## **9. Conclusion**

As shown in the analysis, the intersection of Nobel Drive at Shoreline Drive and the roadway segments on Nobel Drive directly east and west of Shoreline Drive are expected to operate at acceptable levels of service in the Existing and Existing With Project conditions. There are no direct significant impacts as a result of the project and therefore, no mitigation is required. To facilitate the response times for the emergency vehicles exiting onto Nobel Drive, the Fire Department will control the signal at Nobel Drive / Shoreline Drive as well as a new traffic signal for any westbound traffic on Nobel Drive.

### **Appendices Include:**

Existing Count Data & Signal Timing Sheets  
Existing Synchro Worksheets  
Existing With Project Synchro Worksheets  
Existing With Project Queuing Worksheets  
Examples of SD Fire Stations with Similar Access



## ATTACHMENT 2

### Fire Station 50 Trip Generation Table

Use	Intensity	Auto Equivalency	Equivalent Autos	Trip	ADT	AM Peak Hour						PM Peak Hour							
						%	#	In	Out	In	Out	%	#	In	Out	In	Out		
<b>Fire Station 50</b>																			
Employee	10 Employees	N/A	N/A	2 /Employee	20	100%	20	5	:	5	10	10	0%	0	0	:	0	0	0
Incidents (Engines & Trucks)	11 Calls	1.5	17	2 /Call	33	20%	6	5	:	5	3	3	20%	6	5	:	5	3	3
<b>TOTAL</b>					53		26				13	13		6				3	3

Notes:

1. Trip generation rates are not available within the City of San Diego Trip Generation Manual and Institute of Transportation Engineers (ITE) 9th Edition. Therefore, the trip generation for Fire Station 50 was based on information provided by the City's Fire Department.
2. Number of Incidents were provided by San Diego Fire Department / Response Planning.
3. The daily shift changes for employees at the proposed Fire Station 50 would occur between 7:00 AM - 8:00 AM.
4. Passenger-Car equivalents for Trucks is 1.5 per Exhibit 21-9 in the Highway Capacity Manual 2000

Intensity Calculations

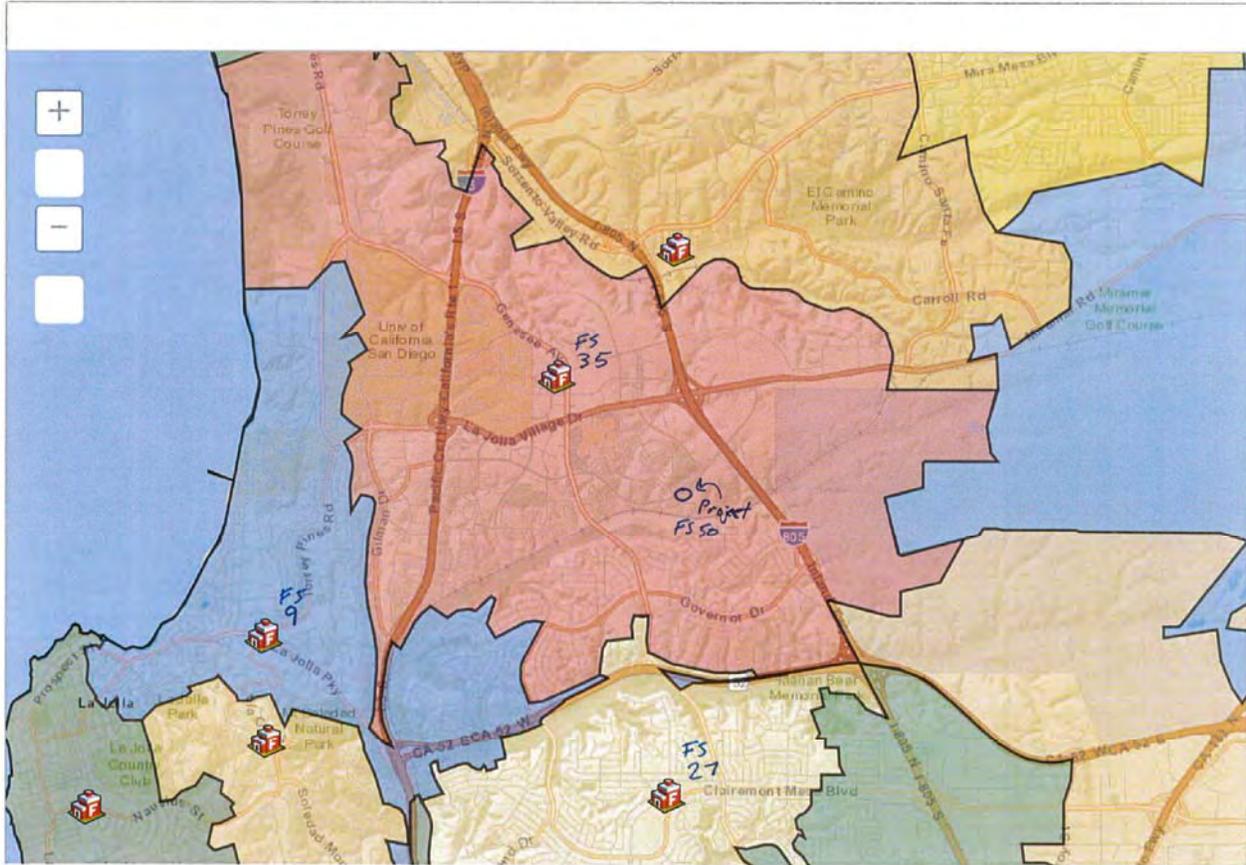
Number of Calls:  $\frac{(3,967) \frac{\text{calls}}{\text{year}}}{(365) \frac{\text{days}}{\text{year}}} = 11 \frac{\text{calls}}{\text{day}}$

ADT = Average Daily Traffic

### ATTACHMENT 3

## Fire Station Jurisdictional Zones

### City of San Diego Fire Stations

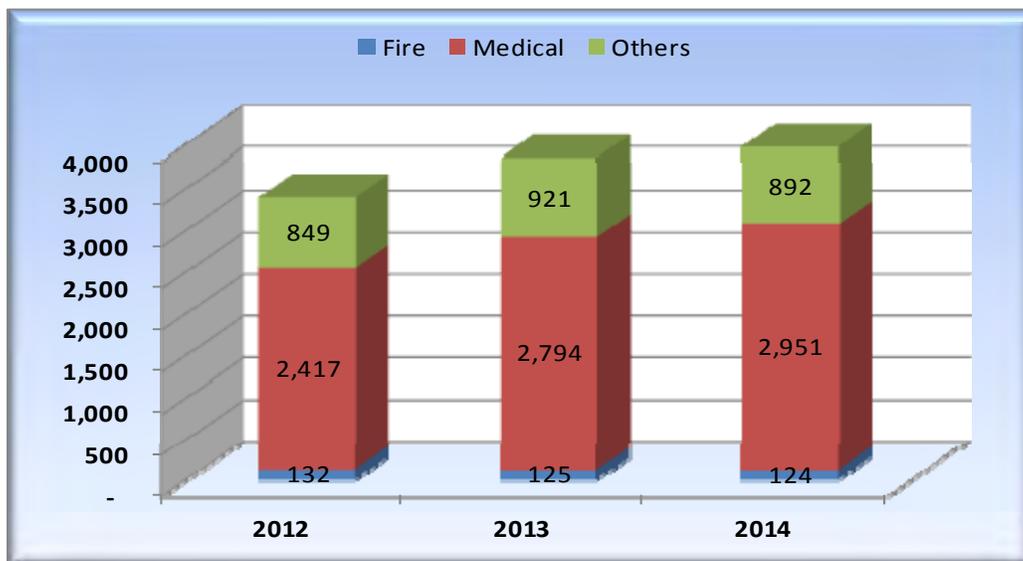


**ATTACHMENT 4**

**Fire Department Incident Information**

**Incidents between the hours 08:00 and 20:00**

Incident Classification	2012	2013	2014	Total
Fire	132	125	124	381
Medical	2,417	2,794	2,951	8,162
Others	849	921	892	2,662
<b>Total</b>	<b>3,398</b>	<b>3,840</b>	<b>3,967</b>	<b>11,205</b>



## ATTACHMENT 5 Study Locations



### Legend

- X = Study Street Segment
- = Study Intersection



**ATTACHMENT 6**

**Existing Street Segment & Intersection Levels of Service**

**Street Segment Analysis**

Road	Segment	Class.	Cap.	Volume	V/C	LOS
Nobel Dr.	West of Shoreline Dr.	6-lane PA	60,000	14,413	0.24	A
	East of Shoreline Dr.	6-lane PA	60,000	16,536	0.28	A

**Legend:**

Class. = Functional Class

Count Date: November 12, 2015

Cap. = Capacity

LOS = Level of Service

PA= Prime Arterial

**Intersection Analysis**

Number	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Nobel Dr. / Shoreline Dr.	Signalized	30.2	C	35.7	D

**Notes:**

Delay = Seconds per Vehicle

LOS = Level of Service

### ATTACHMENT 7

## Project Trip Distribution Percentages & Project Only Average Daily Traffic



#### Legend

XX% = Fire Station 50 Distribution Percentage

ADT = Average Daily Traffic



**ATTACHMENT 8**

**Existing With Project Street Segment & Intersection Levels of Service**

**Street Segment Analysis**

Road	Segment	Class.	Cap.	Volume	V/C	LOS
Nobel Dr.	West of Shoreline Dr.	6-lane PA	60,000	14,450	0.24	A
	East of Shoreline Dr.	6-lane PA	60,000	16,549	0.28	A

**Legend:**

Class. = Functional Class

Cap. = Capacity

LOS = Level of Service

PA = Prime Arterial

**Intersection Analysis**

Number	Intersection	Control	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Nobel Dr. / Shoreline Dr.	Signalized	30.7	C	35.9	D

**Notes:**

Delay = Seconds per Vehicle

LOS = Level of Service

**ATTACHMENT 9**

**Existing Without Project & Existing With Project Levels of Service Summary**

**Street Segment Comparison**

Road	Segment	Cap.	Class.	Existing			Existing + Project			Δ V/C	Is this impact Significant?
				LOS	Volume	V/C	LOS	Volume	V/C		
Nobel Dr.	West of Shoreline Dr.	60,000	6-lane PA	A	14,413	0.24	A	14,450	0.24	0.001	<i>NO</i>
	East of Shoreline Dr.	60,000	6-lane PA	A	16,536	0.28	A	16,549	0.28	0.000	<i>NO</i>

**Legend:**

LOS= Level of Service

Count Date: November 12, 2015

V/C= Volume to Capacity Ratio

ΔV/C= Change in V/C ratio

PA = Prime Arterial

**Intersection Comparison**

#	Intersection	Existing				Existing + Project							
		AM Peak Hour		PM Peak Hour		AM Peak Hour		Δ	S ?	PM Peak Hour		Δ	S ?
		Delay	LOS	Delay	LOS	Delay	LOS			Delay	LOS		
1	Nobel Dr. / Shoreline Dr.	30.2	C	35.7	D	30.7	C	0.5	No	35.9	D	0.2	No

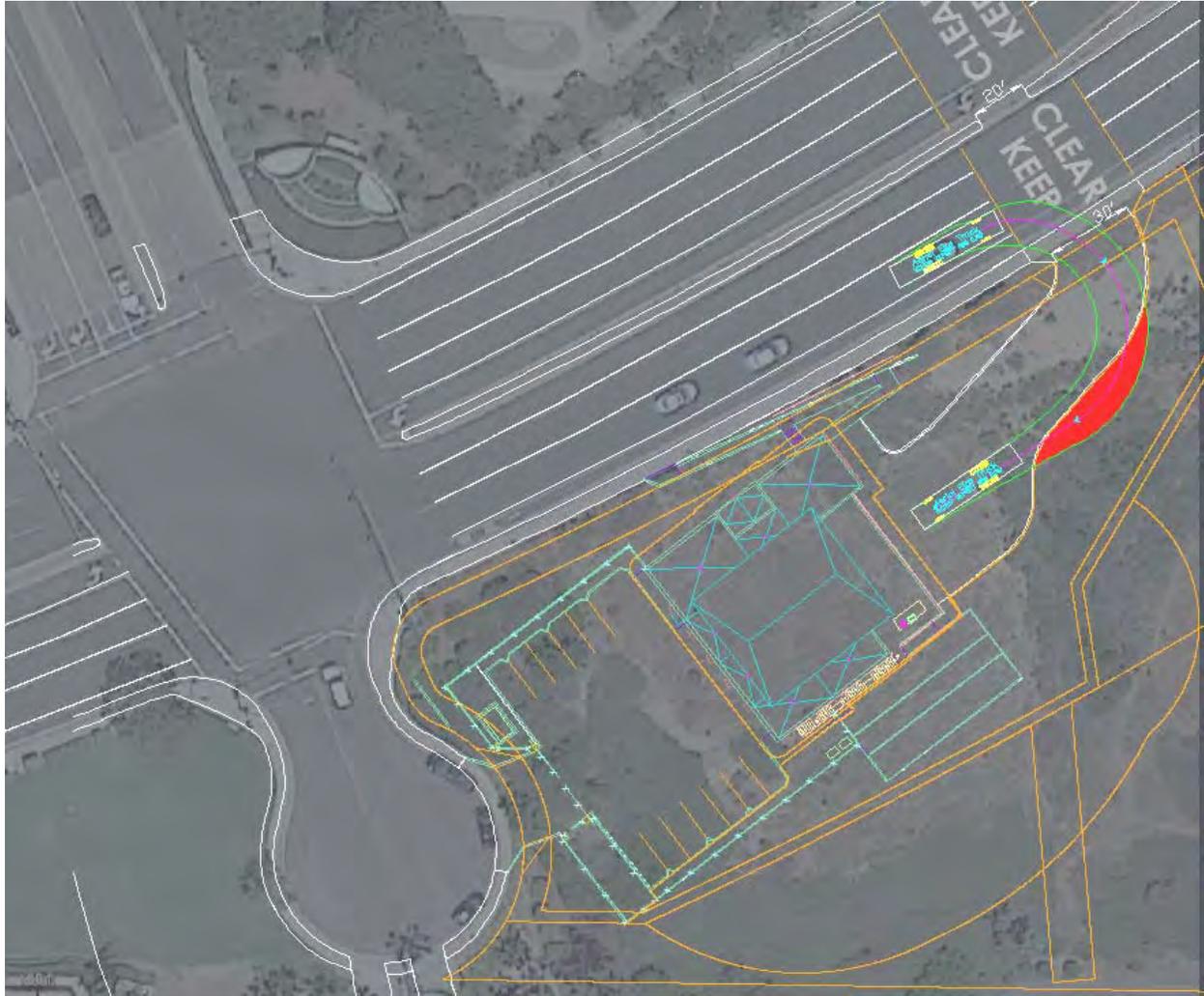
**Notes:**

LOS = Level of Service

Δ = Change

S = Significant

**ATTACHMENT 10**  
**Fire Truck Circulation – Entry From Nobel Drive**



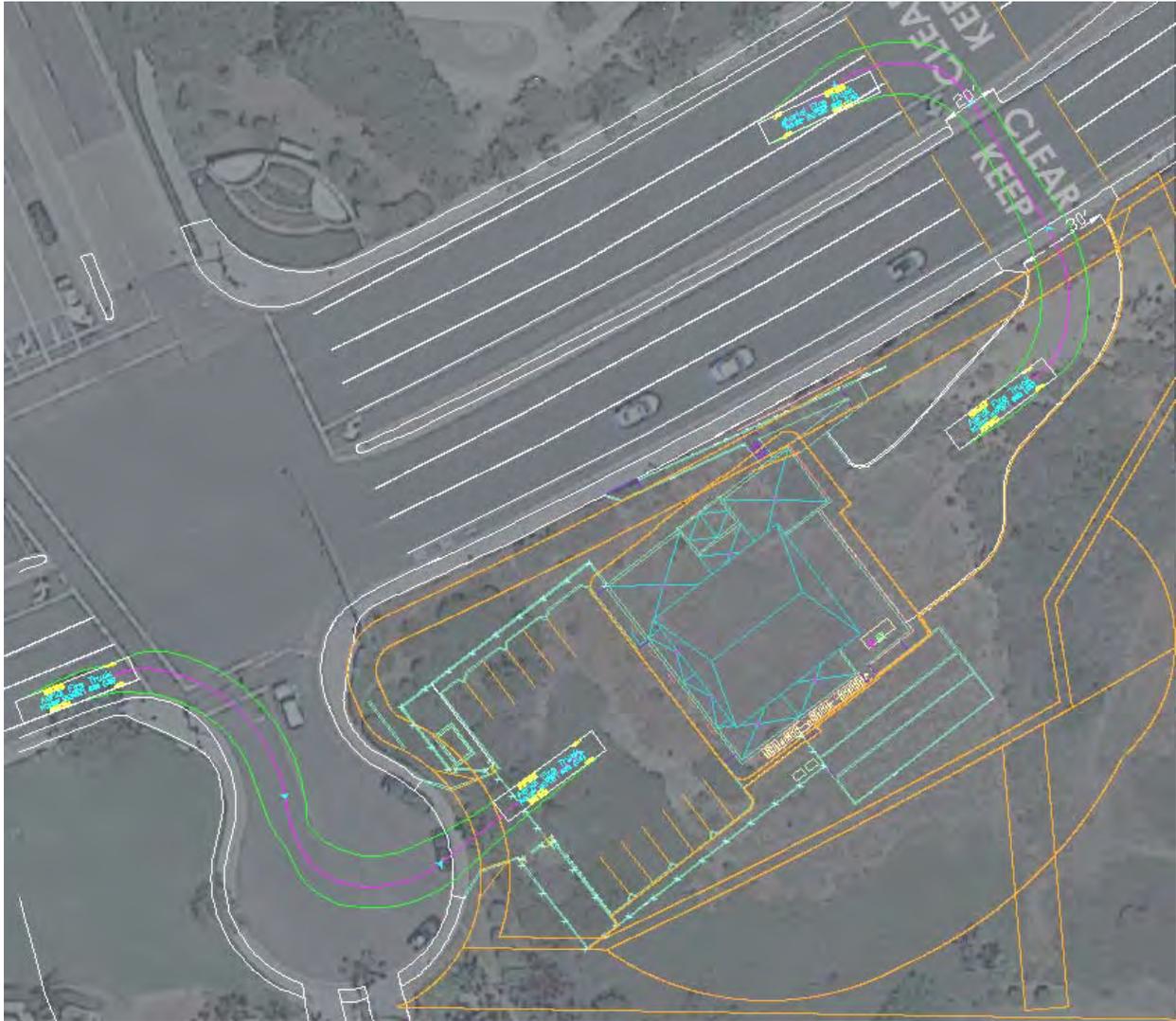
**ATTACHMENT 11**

**Fire Truck Circulation – Entry From Shoreline Drive / Exit Onto Nobel Drive  
(Turning Right Onto Nobel Drive)**



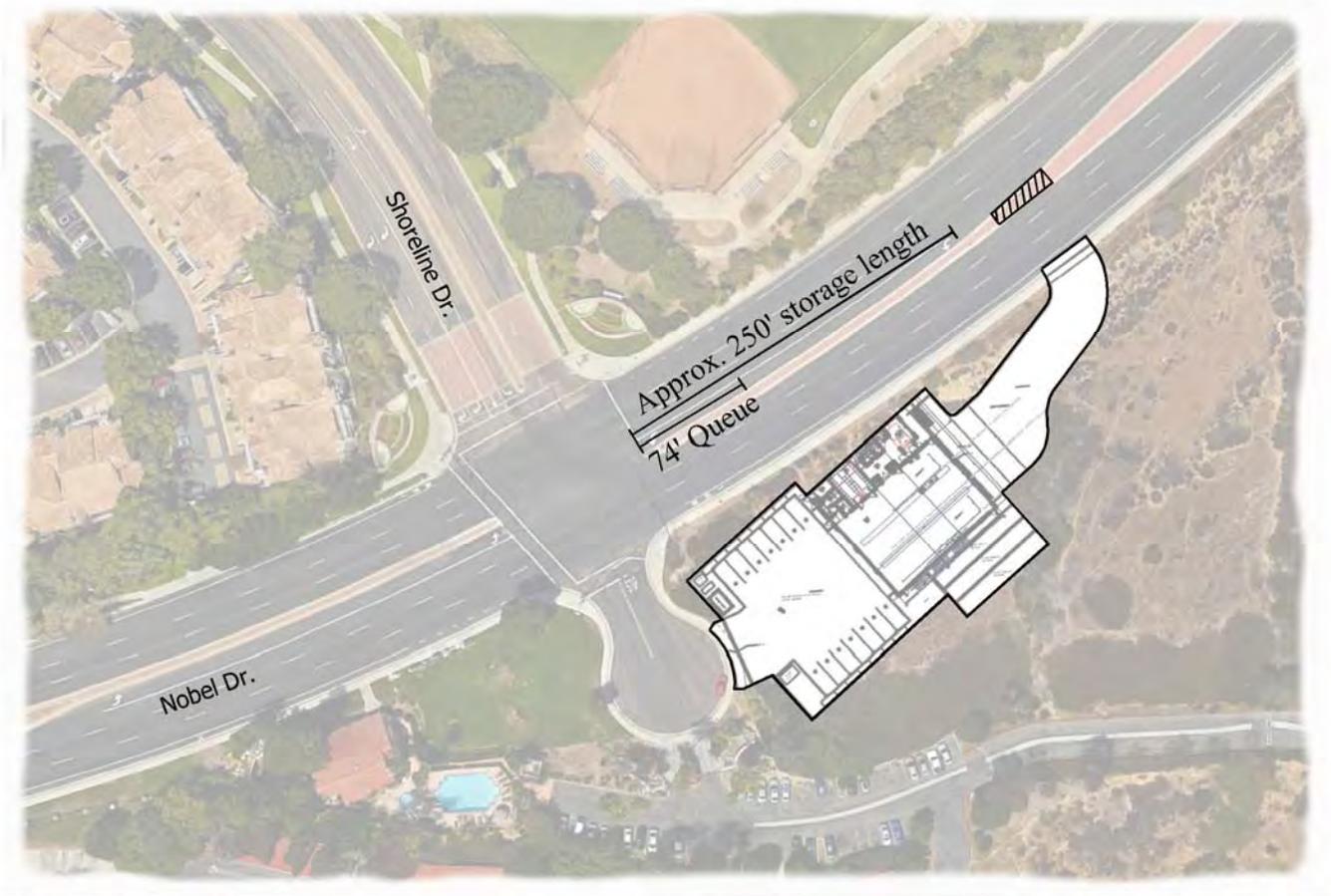
**ATTACHMENT 12**

**Fire Truck Circulation – Entry From Shoreline Drive / Exit Onto Nobel Drive  
(Turning Left Onto Nobel Drive)**



## ATTACHMENT 13

### Westbound Left Turn Queue Length on Nobel Drive



#### Notes

- Queue length for the westbound left turn during the PM Peak Hour (Critical Peak) = 74 feet
- Approximate westbound left turn storage length = 250 feet



## ATTACHMENT 14

### Construction Trip Generation Table

Purpose	Number	Auto Equivalency	Equivalent Autos	Trip	ADT	AM Peak Hour						PM Peak Hour					
						%*	#	In	Out	In	Out	%*	#	In	Out	In	Out
Construction Employees	12	N/A	12	2 /Auto	24	4%	1	9	1	1	0	4%	1	2	8	0	1
Material Deliveries	5	1.5	8	2 /Auto	15	9%	1	4	6	0	1	8%	1	5	5	0	1
Truck Imports/Exports	3	1.5	5	2 /Auto	9	9%	1	4	6	0	1	8%	1	5	5	1	0
<b>TOTAL</b>					<b>48</b>		<b>3</b>			<b>1</b>	<b>2</b>		<b>3</b>			<b>1</b>	<b>2</b>

Notes:

ADT = Average Daily Traffic

1. Passenger-Car equivalents for Trucks is 1.5 per Exhibit 21-9 in the Highway Capacity Manual 2000
2. Typical work hours 7AM to 3:30PM for employee Peak Hour In/Out ratios, a 4% AM and PM peak is assumed based on the AM peak counts beginning at 7:30AM and the majority of employee shifts ending at 3:30PM, which is prior to the PM peak counts beginning at 5:00PM.
3. For Material Deliveries and Truck Imports/Exports, the Truck Terminal land use peak hour splits were used based on the City of San Diego Trip Generation Manual, May 2003.

# FIRE STATION 50

## APPENDIX

- Existing Count Data & Signal Timing Sheets
  - Existing Synchro Worksheets
  - Existing With Project Synchro Worksheets
  - Existing With Project Queuing Worksheets
- Examples of SD Fire Stations with Similar Access
  - Peak Hour Incident Determination

**Transportation Studies, Inc.**

2640 Walnut Avenue, Suite H

Tustin, CA. 92780

Location : NOBEL DRIVE  
 Segment : W/O SHORELINE DRIVE  
 Client : URBAN SYSTEMS

Site: SAN DIEGO  
 Date: 11/12/15

Interval	EB				WB				Combined				Day:	Thursday	
	AM		PM		AM		PM		AM		PM				
12:00	13	48	102	474	16	51	108	436	29	99	210	910			
12:15	18		120		18		86		36		206				
12:30	11		112		9		132		20		244				
12:45	6		140		8		110		14		250				
01:00	10	32	151	545	13	41	111	403	23	73	262	949			
01:15	2		140		10		97		12		237				
01:30	10		119		6		101		16		220				
01:45	10		136		12		94		22		230				
02:00	4	11	116	445	0	18	90	374	4	29	206	819			
02:15	5		124		4		82		9		206				
02:30	1		105		6		109		7		214				
02:45	1		100		8		93		9		193				
03:00	3	17	84	362	2	10	93	484	5	27	177	846			
03:15	5		92		0		114		5		206				
03:30	6		88		5		139		11		227				
03:45	3		98		3		138		6		236				
04:00	1	24	85	345	6	29	170	744	7	53	255	1,089			
04:15	8		82		2		203		10		285				
04:30	9		78		8		169		17		247				
04:45	6		100		13		202		19		302				
05:00	9	78	69	363	14	97	224	886	23	175	293	1,249			
05:15	20		99		16		222		36		321				
05:30	22		82		29		230		51		312				
05:45	27		113		38		210		65		323				
06:00	30	225	89	379	34	168	194	653	64	393	283	1,032			
06:15	48		104		40		157		88		261				
06:30	70		84		48		166		118		250				
06:45	77		102		46		136		123		238				
07:00	94	520	109	429	69	342	94	299	163	862	203	728			
07:15	134		116		110		74		244		190				
07:30	134		110		83		66		217		176				
07:45	158		94		80		65		238		159				
08:00	127	533	90	339	79	305	60	282	206	838	150	621			
08:15	128		88		68		78		196		166				
08:30	136		86		68		72		204		158				
08:45	142		75		90		72		232		147				
09:00	114	456	86	320	96	348	76	234	210	804	162	554			
09:15	122		75		80		54		202		129				
09:30	136		81		84		54		220		135				
09:45	84		78		88		50		172		128				
10:00	91	400	54	180	110	399	54	189	201	799	108	369			
10:15	92		50		82		47		174		97				
10:30	106		48		101		42		207		90				
10:45	111		28		106		46		217		74				
11:00	98	422	45	118	90	463	14	92	188	885	59	210			
11:15	84		28		116		28		200		56				
11:30	132		51		127		22		259		53				
11:45	108		14		130		28		238		42				
Totals	2,766		4,300		2,271		5,076		5,037		9,376				
Split%	54.9		45.9		45.1		54.1								
Day Totals		7,066				7,347				14,413					
Day Splits		49.0				51.0									
Peak Hour	07:15		12:45		11:00		05:00		07:15		05:00				
Volume	553		550		463		886		905		1,249				
Factor	0.88		0.91		0.89		0.96		0.93		0.97				



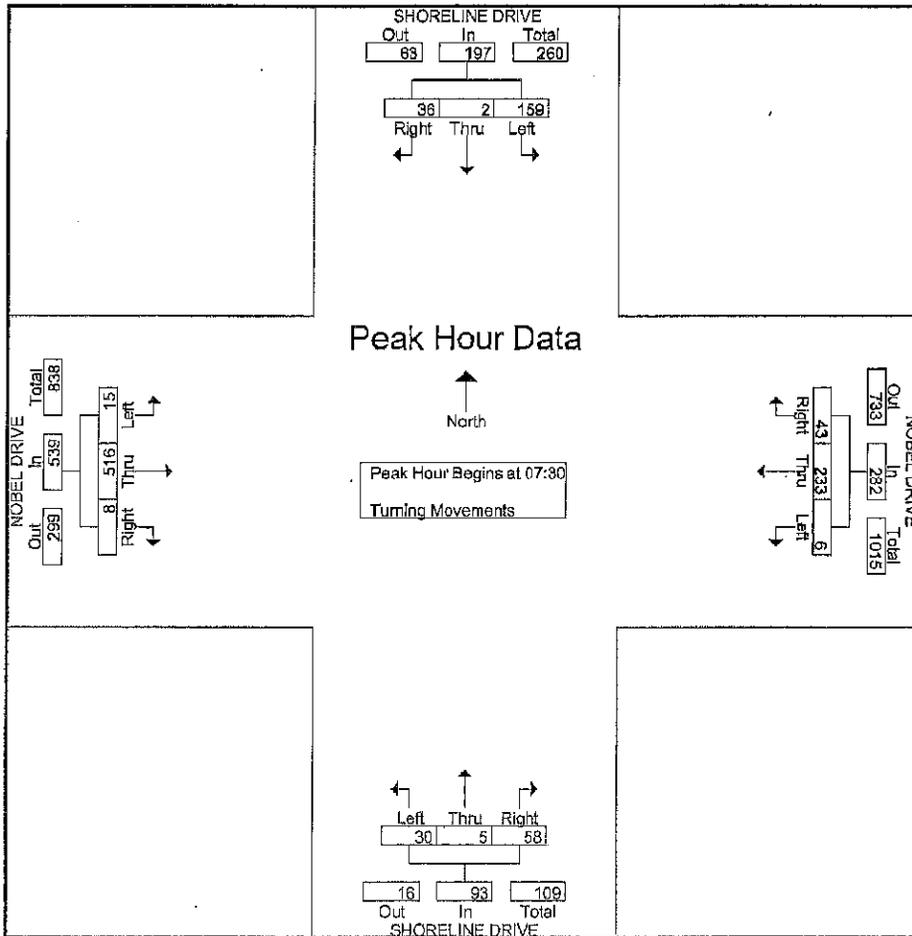
City: SAN DIEGO  
 N-S- Direction: SHORELINE DRIVE  
 E-W Direction: NOBEL DRIVE

File Name : h1511044  
 Site Code : 00001944  
 Start Date : 11/12/2015  
 Page No : 1

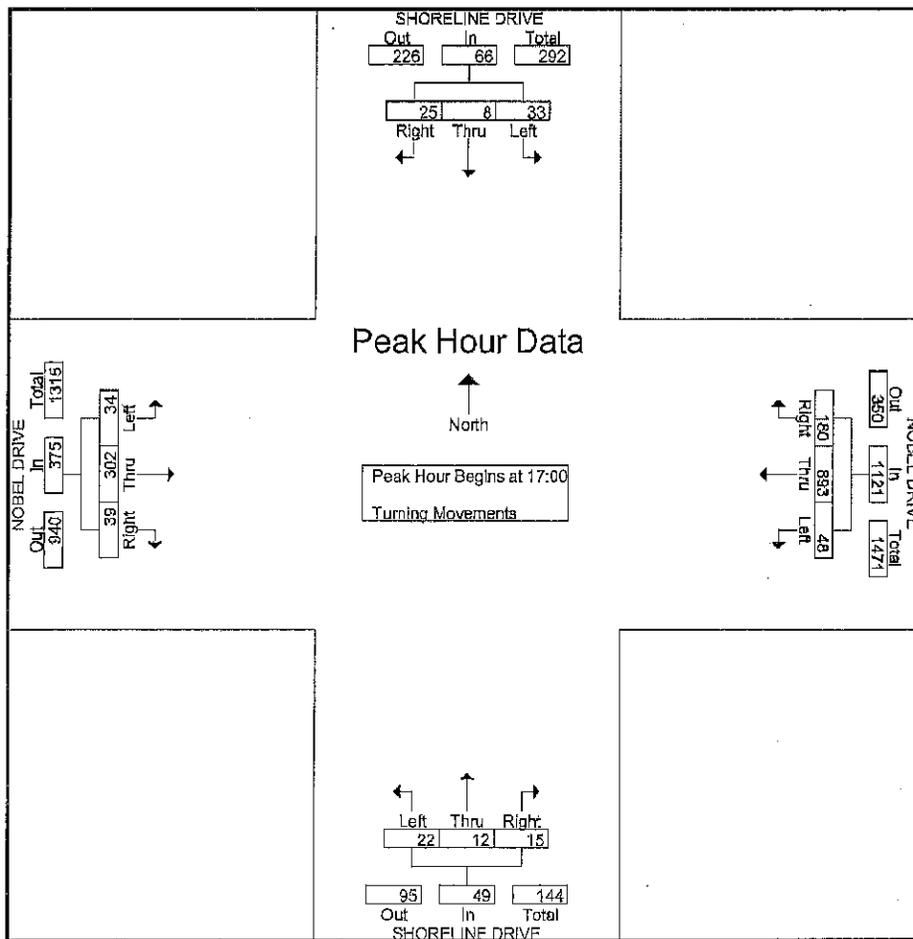
Groups Printed- Turning Movements

Start Time	SHORELINE DRIVE Southbound				NOBEL DRIVE Westbound				SHORELINE DRIVE Northbound				NOBEL DRIVE Eastbound				Excl. Total	Incl. Total	Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds			
07:00	15	0	35	1	13	49	1	0	6	0	3	0	0	80	3	2	3	205	208
07:15	10	1	26	0	14	58	1	0	15	0	9	0	0	114	2	1	1	260	281
07:30	9	0	43	2	7	64	3	0	12	2	8	0	2	127	4	0	2	281	283
07:45	12	1	36	3	13	60	1	0	12	2	6	1	2	143	5	1	5	298	303
Total	46	2	140	6	47	241	6	0	45	4	26	1	4	469	14	4	11	1044	1055
08:00	6	1	36	0	9	57	0	0	20	1	4	0	3	121	3	2	2	261	263
08:15	9	0	44	0	14	52	2	0	14	0	12	1	1	120	3	3	4	271	275
08:30	14	1	36	1	14	41	2	0	13	2	6	0	3	119	8	2	3	259	262
08:45	12	1	33	0	16	47	3	0	17	2	8	0	1	138	5	4	4	283	287
Total	41	3	149	1	63	197	7	0	64	5	30	1	8	498	19	11	13	1074	1087
16:00	5	2	15	2	25	157	10	0	0	1	2	2	5	74	10	1	5	306	311
16:15	7	2	12	1	35	195	7	0	0	1	1	0	11	68	12	0	1	351	352
16:30	9	0	19	0	38	158	9	0	3	1	6	0	6	65	3	2	2	317	319
16:45	7	2	17	2	36	178	5	0	6	0	5	1	5	76	8	2	5	345	350
Total	28	6	63	5	134	688	31	0	9	3	14	3	27	283	33	5	13	1319	1332
17:00	6	1	7	0	30	216	11	0	2	5	7	0	1	75	8	4	4	369	373
17:15	5	4	9	2	48	223	14	0	5	4	4	1	14	75	6	2	5	411	416
17:30	8	3	13	3	47	223	13	0	4	0	2	0	10	74	7	0	3	404	407
17:45	6	0	4	0	55	231	10	0	4	3	9	0	14	78	13	0	0	427	427
Total	25	8	33	5	180	893	48	0	15	12	22	1	39	302	34	6	12	1611	1623
Grand Total	140	19	385	17	414	2019	92	0	133	24	92	6	78	1552	100	26	49	5048	5097
Approch %	25.7	3.5	70.8		16.4	80	3.6		53.4	9.6	36.9		4.5	89.7	5.8				
Total %	2.8	0.4	7.6		8.2	40	1.8		2.6	0.5	1.8		1.5	30.7	2		1	99	

Start Time	SHORELINE DRIVE Southbound				NOBEL DRIVE Westbound				SHORELINE DRIVE Northbound				NOBEL DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	9	0	43	52	7	84	3	74	12	2	8	22	2	127	4	133	281
07:45	12	1	36	49	13	60	1	74	12	2	6	20	2	148	5	155	288
08:00	6	1	36	43	9	57	0	66	20	1	4	25	3	121	3	127	261
08:15	9	0	44	53	14	52	2	68	14	0	12	26	1	120	3	124	271
Total Volume	36	2	159	197	43	233	6	282	58	5	30	93	8	516	15	539	1111
% App. Total	18.3	1	80.7		15.2	82.6	2.1		62.4	5.4	32.3		1.5	95.7	2.8		
PHF	.750	.500	.903	.929	.768	.910	.500	.953	.725	.625	.625	.894	.667	.872	.750	.869	.932



Start Time	SHORELINE DRIVE Southbound				NOBEL DRIVE Westbound				SHORELINE DRIVE Northbound				NOBEL DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	6	1	7	14	30	216	11	257	2	5	7	14	1	75	8	84	369
17:15	5	4	9	18	48	223	14	271	5	0	2	7	14	74	7	91	404
17:30	8	3	13	24	47	223	13	283	4	3	9	16	14	78	13	105	427
17:45	6	0	4	10	55	231	10	298	4	3	9	16	14	78	13	105	427
Total Volume	25	8	33	66	180	893	48	1121	15	12	22	49	39	302	34	375	1611
% App. Total	37.9	12.1	50		16.1	79.7	4.3		30.6	24.5	44.9		10.4	80.5	9.1		
PHF	.781	.500	.635	.688	.818	.966	.857	.947	.750	.600	.811	.766	.696	.968	.654	.893	.943



City: SAN DIEGO  
 N-S- Direction: SHORELINE DRIVE  
 E-W Direction: NOBEL DRIVE

File Name : h1511044  
 Site Code : 00001944  
 Start Date : 11/12/2015  
 Page No : 1

Groups Printed- Bikes

Start Time	SHORELINE DRIVE Southbound				NOBEL DRIVE Westbound				SHORELINE DRIVE Northbound				NOBEL DRIVE Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	Bikes	Right	Thru	Left	Bikes	Right	Thru	Left	Bikes	Right	Thru	Left	Bikes			
07:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
07:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3	0	3
08:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
08:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0	2
16:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
16:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
16:45	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3	0	3
Total	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	5	0	5
17:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
17:15	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0	2
17:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Total	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	4	0	4
Grand Total	0	0	0	6	0	0	0	0	0	0	0	8	0	0	0	0	14	0	14
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

**INTERSECTION: NOBEL & SHORELINE**

Group Assignment: NONE  
 Field Master Assignment: NONE  
 System Reference Number: 626

N/S Street Name: SHORELINE  
 EW Street Name: NOBEL

Change Record					
Change	By	Date	Change	By	Date
SUPERLOOP		5/12			

**Notes:**

Manual Plan  
 0 = Automatic  
 1-9 = Plan 1-9  
 14 = Free  
 15 = Flash

Manual Offset  
 0 = Automatic  
 1 = Offset A  
 2 = Offset B  
 3 = Offset C

Drop Number	1	<C/0+0+0>
Zone Number	1	<C/0+0+1>
Area Number	4	<C/0+0+2>
Area Address	41	<C/0+0+3>
QuickNet Channel	COM46	(QuickNet)

Manual Plan		<C/0+A+1>
Manual Offset		<C/0+B+1>

**Communication Addresses**

**Manual Selection**

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	5.0	<F/1+C+0>

**Start / Revert Times**

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

**Exclusive Ped Phase**  
 (Outputs specified in Assignable  
 Outputs at E127+A+E & F)

Row	Phase Names →	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk	0	7	0	7	0	7	0	0
1	Ped FDW	0	8	0	22	0	18	0	0
2	Min Green	4	10	4	4	4	10	0	0
3	Type 3 Disconnect	0	0	0	0	0	0	0	0
4	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Veh Extension	2.0	4.6	2.0	2.7	2.0	4.4	0.0	0.0
6	Max Gap	2.0	4.6	2.0	2.7	2.0	4.4	0.0	0.0
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2	0.0	0.0
8	Max Limit	30	60	40	40	30	60	0	0
9	Max Limit 2	0	0	0	0	0	0	0	0
A	Adv. / Delay Walk	0	0	0	0	0	0	0	0
B	PE Min Ped FDW	0	1	0	1	0	1	0	0
C	Cond Serv Check	0	0	0	0	0	0	0	0
D	Reduce Every	0.0	0.7	0.0	1.2	0.0	0.7	0.0	0.0
E	Yellow Change	3.4	4.8	3.9	3.9	3.4	4.9	0.0	0.0
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0

**Phase Timing - Bank 1** <C+0+F=1>

	1	2	3	4	5	6	7	8
Phase 1	0	0	0	0	0.0			
Phase 2	20	0	0	0	0.0			
Phase 3	0	0	0	0	0.0			
Phase 4	20	0	0	0	0.0			
Phase 5	0	0	0	0	0.0			
Phase 6	20	0	0	0	0.0			
Phase 7	0	0	0	0	0.0			
Phase 8	20	0	0	0	0.0			

Max Initial  
 Alternate Walk  
 Alternate FDW  
 Alternate Initial  
 Alternate Extension

**Alternate Timing** <C+0+F=1>

RR-1 Delay	0
RR-1 Clear	0
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	0
RR-2 Clear	0
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

**Preempt Timing**

Permit	123456
Red Lock	
Yellow Lock	2 4 6
Min Recall	
Ped Recall	
Rest Set Peds	-----
Rest In Walk	
Red Rest	
Dual Entry	
Max Recall	
Soft Recall	2 6
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	2 6
First Phases	3

**Phase Functions** <C+0+F=1>

Column Numbers →		Overlap							
Row	Overlap Name →								
0	Load Switch Number	0	0	0	0	0	0	0	0
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
10									
11									
12									
13									
14	Green Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlap Assignments <C+0+E=29>

- Extra 1 Flags**
- 1 = TBC Type 1
  - 2 = NEMA Ext. Coord
  - 3 = Auto Daylight Savings
  - 4 = Solrd FDW on EV
  - 5 = Extended Status
  - 6 = International Ped
  - 7 = Flash - Clear Outputs
  - 8 = Split Ring

- Extra 2 Flags**
- 1 = AWB During Initial
  - 2 = LMU Installed
  - 3 = Disable Min Walk
  - 4 = QuickNet/4 System
  - 5 = Ignore P/P on EV
  - 6 =
  - 7 = Reserved
  - 8 =

EV-A	0
EV-B	0
EV-C	0
EV-D	0
RR-1 *	---
RR-2 *	---
SE-1	0
SE-2	0

**Preempt Priority**  
 <C+0+E=125>  
 (\* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers →	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
10	EV-A Phases	2 5
11	EV-B Phases	4
12	EV-C Phases	1 6
13	EV-D Phases	3
14	Extra 1 Config. Bits	1 345
15	IC Select (Interconnect)	2

Configuration <C+0+E=125>

Row	E	
0	Ext. Permit 1 Phases	
1	Ext. Permit 2 Phases	
2	Exclusive Ped Assign	
3	Preempt Non-Lock	12345678
4	Ped for 2P Output	2
5	Ped for 6P Output	6
6	Ped for 4P Output	4
7	Ped for 8P Output	
8	Yellow Flash Phases	
9	Low Priority A Phases	
10	Low Priority B Phases	
11	Low Priority C Phases	
12	Low Priority D Phases	
13	Restricted Phases	
14	Extra 2 Config. Bits	3

Configuration <C+0+E=125>

Row	E	
0	Fast Green Flash Phase	
1	Green Flash Phases	
2	Flashing Walk Phases	
3	Guaranteed Passage	
4	Simultaneous Gap Term	12345678
5	Sequential Timing	
6	Advance Walk Phases	
7	Delay Walk Phases	
8	External Recall	
9	Start-up Overlap Green	
10	Max Extension	
11	Inhibit Ped Reserve	
12	Semi-Actuated	
13	Start-up Overlap Yellow	
14	Start-up Vehicle Calls	12345678
15	Start-up Ped Calls	12345678

Specials <C+0+F=2>

- Flash to PE & PE Non-Lock**
- 1 = EVA 6 = RR1
  - 2 = EVB 8 = RR2
  - 3 = EVC 7 = SE1
  - 4 = EVD 8 = SE2

- IC Select Flags**
- 1 =
  - 2 = Modern
  - 3 = 7-Wire Slave
  - 4 = Flash / Free
  - 5 =
  - 6 = Simplex Master
  - 7 = 7-Wire Master
  - 8 = Offset Interrupter

Row	E	
0	Phase 1	10
1	Phase 2	10
2	Phase 3	10
3	Phase 4	10
4	Phase 5	10
5	Phase 6	10
6	Phase 7	10
7	Phase 8	10

**Coordination Transition Minimums**  
 <C+0+C=5>

Row	Column Numbers → Plan Name →	Plan									
		1	2	3	4	5	6	7	8	9	10
01	Cycle Length	100	100	100	100	100	100	100	100	100	100
02	Phase 1 - ForceOff	55	55	55	55	55	55	55	55	55	55
03	Phase 2 - ForceOff	0	0	0	0	0	0	0	0	0	0
04	Phase 3 - ForceOff	20	20	20	20	20	20	20	20	20	20
05	Phase 4 - ForceOff	40	40	40	40	40	40	40	40	40	40
06	Phase 5 - ForceOff	55	55	55	55	55	55	55	55	55	55
07	Phase 6 - ForceOff	0	0	0	0	0	0	0	0	0	0
08	Phase 7 - ForceOff	20	20	20	20	20	20	20	20	20	20
09	Phase 8 - ForceOff	40	40	40	40	40	40	40	40	40	40
10	Ring Offset	0	0	0	0	0	0	0	0	0	0
11	Offset 1	0	0	0	0	0	0	0	0	0	0
12	Offset 2	0	0	0	0	0	0	0	0	0	0
13	Offset 3	0	0	0	0	0	0	0	0	0	0
14	Perm 1 - End	15	15	15	15	15	15	15	15	15	15
15	Hold Release	255	255	255	255	255	255	255	255	255	255
16	Zone Offset	0	0	0	0	0	0	0	0	0	0

Coordination - Bank 1 <C+0+C=1>

01	Ped Adjustment	0	0	0	0	0	0	0	0	0
02	Perm 2 - Start	0	0	0	0	0	0	0	0	0
03	Perm 2 - End	0	0	0	0	0	0	0	0	0
04	Perm 3 - Start	0	0	0	0	0	0	0	0	0
05	Perm 3 - End	0	0	0	0	0	0	0	0	0
06	Reservice Time	0	0	0	0	0	0	0	0	0
07	Reservice Phases									
08	Prefimed Phases									
09	Max Recall									
10	Perm 1 Veh Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
11	Perm 1 Ped Phase	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
12	Perm 2 Veh Phase									
13	Perm 2 Ped Phase									
14	Perm 3 Veh Phase									
15	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Coord Extra  
 1 = Programmed WALK Time for Sync Phases  
 2 = Always Terminate Sync Phase Peds

01	Plan 1 - Sync	2	6
02	Plan 2 - Sync	2	6
03	Plan 3 - Sync	2	6
04	Plan 4 - Sync	2	6
05	Plan 5 - Sync	2	6
06	Plan 6 - Sync	2	6
07	Plan 7 - Sync	2	6
08	Plan 8 - Sync	2	6
09	Plan 9 - Sync	2	6
10	NEMA Sync		
11	NEMA Hold		
12	Coord Extra		

Sync Phases <C+0+C=1>

01	Free Lag	2	4	6	8
02	Plan 1 - Lag	2	4	6	8
03	Plan 2 - Lag	2	4	6	8
04	Plan 3 - Lag	2	4	6	8
05	Plan 4 - Lag	2	4	6	8
06	Plan 5 - Lag	2	4	6	8
07	Plan 6 - Lag	2	4	6	8
08	Plan 7 - Lag	2	4	6	8
09	Plan 8 - Lag	2	4	6	8
10	Plan 9 - Lag	2	4	6	8
11	External Lag				

Lag Phases <C+0+C=1>

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row							
10	Spec. Funct. 1	0	NOT-3	0	Max 2	0	Pretimed	0	Set Monday	0	Dial 2 (7-Wire)	0	Sim Term	0	10
11	Spec. Funct. 2	0	NOT-4	0	System Det 1	0	Plan 1	0	Ext. Perm 1	0	Dial 3 (7-Wire)	0	EV-A	71	11
12	Spec. Funct. 3	0	OR-4 (a)	0	System Det 2	0	Plan 2	0	Ext. Perm 2	0	Offset 1 (7-Wire)	0	EV-B	72	12
13	Spec. Funct. 4	0	OR-4 (b)	0	System Det 3	0	Plan 3	0	Dimming	0	Offset 2 (7-Wire)	0	EV-C	73	13
14	NAND-3 (a)	0	OR-5 (a)	0	System Det 4	0	Plan 4	0	Set Clock	0	Offset 3 (7-Wire)	0	EVD	74	14
15	NAND-3 (b)	0	OR-5 (b)	0	System Det 5	0	Plan 5	0	Stop Time	82	Free (7-Wire)	0	RR-1	51	15
16	NAND-4 (a)	0	OR-6 (a)	0	System Det 6	0	Plan 6	0	Flash Sense	81	Flash (7-Wire)	0	RR-2	52	16
17	NAND-4 (b)	0	OR-6 (b)	0	System Det 7	0	Plan 7	0	Manual Enable	0	Excl. Ped Ornit	0	Spec. Event 1	0	17
18	OR-7 (a)	0	Fig 3 Diamond	0	System Det 8	0	Plan 8	0	Man. Advance	0	NOT-1	0	Spec. Event 2	0	18
19	OR-7 (b)	0	Fig 4 Diamond	0	Max Inhibit (nema)	0	Plan 9	0	External Alarm	0	NOT-2	0	External Lag	0	19
20	OR-7 (c)	0	AND-4 (a)	0	Force A (nema)	0	DELAY-A	0	Phase Bank 2	0	OR-1 (a)	0	AND-1 (a)	0	20
21	OR-7 (d)	0	AND-4 (b)	0	Force B (nema)	0	DELAY-B	0	Phase Bank 3	0	OR-1 (b)	0	AND-1 (b)	0	21
22	OR-8 (a)	0	NAND-1 (a)	0	C.N.A. (nema)	0	DELAY-C	0	Overlap Set 2	0	OR-2 (a)	0	AND-2 (a)	0	22
23	OR-8 (b)	0	NAND-1 (b)	0	Hold (nema)	0	DELAY-D	0	Overlap Set 3	0	OR-2 (b)	0	AND-2 (b)	0	23
24	OR-8 (c)	0	NAND-2 (a)	0	Max Recall	0	DELAY-E	0	Detector Set 2	0	OR-3 (a)	0	AND-3 (a)	0	24
25	OR-8 (d)	0	NAND-2 (b)	0	Min Recall	0	DELAY-F	0	Detector Set 3	0	OR-3 (b)	0	AND-3 (b)	0	25

Assignable Inputs

<C+0+E=126>

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row							
10	Phase ON - 1	0	Preempt Fail	0	Flasher 0	0	Free	0	NOT-1	0	TOD Out 1	0	Dial 2 (7-Wire)	0	10
11	Phase ON - 2	0	Sp Evnt Out 1	0	Flasher 1	0	Plan 1	0	OR-1	0	TOD Out 2	0	Dial 3 (7-Wire)	0	11
12	Phase ON - 3	0	Sp Evnt Out 2	0	Fast Flasher	0	Plan 2	0	OR-2	0	TOD Out 3	0	Offset 1 (7-Wire)	0	12
13	Phase ON - 4	0	Sp Evnt Out 3	0	Fig 3 Diamond	0	Plan 3	0	OR-3	0	TOD Out 4	0	Offset 2 (7-Wire)	0	13
14	Phase ON - 5	0	Sp Evnt Out 4	0	Fig 4 Diamond	0	Plan 4	0	AND-1	0	TOD Out 5	0	Offset 3 (7-Wire)	0	14
15	Phase ON - 6	0	Sp Evnt Out 5	0			Plan 5	0	AND-2	0	TOD Out 6	0	Free (7-Wire)	0	15
16	Phase ON - 7	0	Sp Evnt Out 6	0			Plan 6	0	AND-3	0	TOD Out 7	0	Flash (7-Wire)	0	16
17	Phase ON - 8	0	Sp Evnt Out 7	0			Plan 7	0	NOT-2	0	TOD Out 8	0	Preempt	0	17
18	Ph. Check - 1	0	Sp Evnt Out 8	0	NOT-3	0	Plan 8	0	EV-A	0	Adv. Warn - 1	0	Low Priority A	0	18
19	Ph. Check - 2	0			NOT-4	0	Plan 9	0	EV-B	0	Adv. Warn - 2	0	Low Priority B	0	19
20	Ph. Check - 3	0	Detector Fail	0	OR-4	0	Spec. Funct. 3	0	EV-C	0	DELAY-A	0	Low Priority C	0	20
21	Ph. Check - 4	0	Spec. Funct. 1	0	OR-5	0	Spec. Funct. 4	0	EV-D	0	DELAY-B	0	Low Priority D	0	21
22	Ph. Check - 5	0	Spec. Funct. 2	0	OR-6	0	NAND-3	0	RR-1	0	DELAY-C	0			22
23	Ph. Check - 6	0	Central Control	0	AND-4	0	NAND-4	0	RR-2	0	DELAY-D	0			23
24	Ph. Check - 7	0	Excl. Ped DW	0	NAND-1	0	OR-7	0	Spec. Event 1	0	DELAY-E	0			24
25	Ph. Check - 8	0	Excl. Ped WK	0	NAND-2	0	OR-8	0	Spec. Event 2	0	DELAY-F	0			25

Assignable Outputs

<C+0+E=127>

Row	Phase Names	Phase							
		1	2	3	4	5	6	7	8
10	Ped Walk	0	7	0	7	0	7	0	7
11	Ped FDW	0	15	0	15	0	15	0	15
12	Min Green	4	7	4	4	4	7	4	4
13	Type 3 Disconnect	0	20	0	20	0	20	0	20
14	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
15	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
16	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
17	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
18	Max Limit	20	30	20	25	20	30	20	25
19	Max Limit 2	30	50	30	40	30	50	30	40
20	Adv. / Delay Walk	0	0	0	0	0	0	0	0
21	PE Min Ped FDW	7	7	7	7	7	7	7	7
22	Cond Serv Check	10	10	10	10	10	10	10	10
23	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
24	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
25	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial  
Alternate Walk  
Alternate FDW  
Alternate Initial  
Alternate Extension

Alternate Timing

Transition Type  
0.X = Shortway  
1.X = Lengthen  
X.1 thru X.4 =  
Number of  
cycles when  
lengthing

Daylight Savings  
Date  
If set to all zeros,  
standard dates  
will be used.

Transition Type	0.3	<C/5+1+9>
-----------------	-----	-----------

TBC Transition

Lag Hold Phases		<C/5+1+A>
-----------------	--	-----------

Coordinated Lag Hold Phases

Sync Output Time	0.0	<C/5+1+C>
------------------	-----	-----------

7-Wire Master

Begin Month	3	<C/5+2+A>
Begin Week	2	<C/5+2+B>
End Month	11	<C/5+2+C>
End Week	1	<C/5+2+D>

Daylight Savings Time

Row	Phase Names	Phase							
		1	2	3	4	5	6	7	8
10	Ped Walk	0	7	0	7	0	7	0	7
11	Ped FDW	0	15	0	15	0	15	0	15
12	Min Green	4	7	4	4	4	7	4	4
13	Type 3 Disconnect	0	20	0	20	0	20	0	20
14	Added per Vehicle	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
15	Veh Extension	2.0	4.0	2.0	2.5	2.0	4.0	2.0	2.5
16	Max Gap	3.0	6.0	3.0	3.0	3.0	6.0	3.0	3.0
17	Min Gap	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5
18	Max Limit	20	30	20	25	20	30	20	25
19	Max Limit 2	30	50	30	40	30	50	30	40
20	Adv. / Delay Walk	0	0	0	0	0	0	0	0
21	PE Min Ped FDW	7	7	7	7	7	7	7	7
22	Cond Serv Check	10	10	10	10	10	10	10	10
23	Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
24	Yellow Change	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0
25	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
Phase 1	0	0	0	0	0.0
Phase 2	20	0	0	0	0.0
Phase 3	0	0	0	0	0.0
Phase 4	20	0	0	0	0.0
Phase 5	0	0	0	0	0.0
Phase 6	20	0	0	0	0.0
Phase 7	0	0	0	0	0.0
Phase 8	20	0	0	0	0.0

Max Initial  
Alternate Walk  
Alternate FDW  
Alternate Initial  
Alternate Extension

Alternate Timing

Time B4 Yellow	0.0	<F/1+C+E>
Phase Number	0	<F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow	0.0	<F/1+D+E>
Phase Number	0	<F/1+D+F>

Advance Warning Beacon - Sign 2

Long Failure	0.7	<F/1+0+6>
Short Failure	0.7	<F/1+0+7>

Power Cycle Correction (Default = 0.7)

Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
	I-2-U	39	45 7	2	123 8	0.0	1.8
	J-2-U	40	45 7	5	123 8	0.0	1.8
	I-6-U	41	45 7	4	123 8	0.0	1.8
	J-6-U	42	45 7	8	123 8	0.0	0.0
	I-2-L	43	45 7	2	123 8	0.0	1.8
	J-2-L	44	45 7	6	123 8	0.0	1.8
	I-6-L	45	45 7	4	123 8	10.0	0.0
	J-6-L	46	45 7	8	123 8	0.0	0.0
	I-4	47	67	2	123 8	0.0	0.0
	J-4	48	67	6	123 8	0.0	0.0
	I-8	49	67	4	123 8	0.0	0.0
	J-8	50	67	8	123 8	0.0	0.0
	J-1	55	45 7	5	123 8	0.0	0.0
	I-1	56	45 7	1	123 8	0.0	0.0
	J-5	57	45 7	7	123 8	0.0	0.0
	I-5	58	45 7	3	123 8	10.0	0.0

Row	Detector Name	C1 Pin Number	Attributes	Phase(s)	Assign	Delay	Carry-over
	J-9-U	59	45 7	5	123 8	0.0	0.0
	I-9-U	60	45 7	1	123 8	0.0	0.0
	J-9-L	61	45 7	7	123 8	0.0	0.0
	I-9-L	62	45 7	3	123 8	0.0	0.0
	I-3-U	63	45 7	2	123 8	0.0	0.0
	J-3-U	64	45 7	6	123 8	0.0	0.0
	I-7-U	65	45 7	4	123 8	0.0	0.0
	J-7-U	66	45 7	8	123 8	0.0	0.0
	I-12-U (Ped)	67	2	2	123 8	0.0	0.0
	I-13-U (Ped)	68	2	6	123 8	0.0	0.0
	I-12-L (Ped)	69	2	4	123 8	0.0	0.0
	I-13-L (Ped)	70	2	8	123 8	0.0	0.0
	I-3-L	76	45 7	2	123 8	0.0	0.0
	J-3-L	77	45 7	6	123 8	0.0	0.0
	I-7-L	78	45 7	4	123 8	0.0	0.0
	J-7-L	79	45 7	8	123 8	0.0	0.0

Detector Assignments <C+0+E=126>

- Detector Attributes**
- 1 = Full Time Delay
  - 2 = Ped Call
  - 3 =
  - 4 = Count
  - 5 = Extension
  - 6 = Type 3
  - 7 = Calling
  - 8 = Alternate
- Det. Assignments**
- 1 = Det. Set 1
  - 2 = Det. Set 2
  - 3 = Det. Set 3
  - 4 =
  - 5 =
  - 6 = Failure - Min Recall
  - 7 = Failure - Max Recall
  - 8 = Report on Failure

<C+0+D=0>

Column Numbers	1	2	3	4	5	6	7	8	9	10
Walk	0	0	0	0	0	0	0	0	0	0
Don't Walk	0	0	0	0	0	0	0	0	0	0
Phase Green	0	0	0	0	0	0	0	0	0	0
Phase Yellow	0	0	0	0	0	0	0	0	0	0
Phase Red	0	0	0	0	0	0	0	0	0	0
Overlap Green	0	0	0	0	0	0	0	0	0	0
Overlap Yellow	0	0	0	0	0	0	0	0	0	0
Overlap Red	0	0	0	0	0	0	0	0	0	0

Redirect Phase Outputs <C+0+E=127>

Cabinet Type 0 <E/125+D+0>

Enable Redirection  
(Enable Redirection = 30)

Max OFF (minutes) 20 <D/0+0+1>  
Max ON (minutes) 7 <D/0+0+2>

Detector Failure Monitor

Row	Output Port
	Output Port 1
	Output Port 2
	Output Port 3
	Output Port 4
	Output Port 5
	Output Port 6
	Output Port 7

Dimming <C+0+E=125>

Row	Number of Digits	D
	1 st Digit	0
	2 ed Digit	0
	3 ed Digit	0
	4 th Digit	0
	5 th Digit	0
	6 th Digit	0
	7 th Digit	0
	8 th Digit	0
	9 th Digit	0
	10 th Digit	0
	11 th Digit	0
	12 th Digit	0
	13 th Digit	0
	14 th Digit	0
	15 th Digit	0

- Disable Alarms**
- 1 = Stop Time
  - 2 = Flash Sense
  - 3 = Keyboard Entry
  - 4 = Manual Plan
  - 5 = Police Control
  - 6 = External Alarm
  - 7 = Detector Failure
  - 8 =

Row	DELAY-A	B
	DELAY-A	0
	DELAY-B	0
	DELAY-C	0
	DELAY-D	0
	DELAY-E	0
	DELAY-F	0

Delay Logic Times  
<C+0+D=0> (seconds)

Omit Alarm <C/5+F+0>

Disable Alarm Reporting

Time 10 <C/5+C+0>

Redial Time (minutes)  
(View Redial Timer at E/2+D+6)

Dial-Back Telephone Number <C+0+C=5>



Row	B	C	D	A	B	C	D	E	F	
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 1

<C+0+E=27>

Notes:

0 <E/27+5+F>

Limited Service Interval

Row	B	C	D	A	B	C	D	E	F	
	Clear	Time	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit Phases	Ped Omit	Output
0		0								
1		0								
2		0								
3		0								
4		0								
5		0								
6		0								
7		0								
8		0								
9		0								
A		0								
B		0								
C		0								
D		0								
E		0								
F		0								

Special Event Schedule -- Table 2

<C+0+E=28>

Notes:

0 <E/28+5+F>

Limited Service Interval

Min Time (seconds) | 4 | <F/1+0+8>  
 Min Green Before PE Force Off

Max Time (minutes) | 4 | <F/1+0+9>  
 Max Preempt Time Before Failure

Min Time (seconds) | 0 | <F/1+0+A>  
 Min Time Between Same Preempts  
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel | | <E/125+C+8>  
 Disable Low Priority Channel

- Low Priority  
 1 = Channel A  
 2 = Channel B  
 3 = Channel C  
 4 = Channel D

Delay Time (seconds) | 0 | <F/1+A+D>  
 Bus Delay

Max Time (seconds) | 0 | <F/1+A+E>  
 Max Early Green

Max Time (seconds) | 0 | <F/1+A+F>  
 Max Green Extension

Row	Time	Headway	Direction	Day of Week
00	00:00	0	0	
01	00:00	0	0	
02	00:00	0	0	
03	00:00	0	0	
04	00:00	0	0	
05	00:00	0	0	
06	00:00	0	0	
07	00:00	0	0	
08	00:00	0	0	
09	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

Headway Time  
 (minutes)  
 1 thru 9 = 1 thru 9  
 A = 10  
 B = 11  
 C = 12  
 D = 13  
 E = 14  
 F = 15

Headway <C+0+9=2.1>

**Low Priority Preemption (Bus Priority)**

Only available with Program 233RV2.B (and above)

Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

HCM Signalized Intersection Capacity Analysis  
1: Nobel Dr. & Shoreline Dr.

Existing AM  
12/3/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑		↙	↑↑↑			↕		↙	↑	↗
Traffic Volume (vph)	15	516	8	6	233	43	30	5	58	159	2	36
Future Volume (vph)	15	516	8	6	233	43	30	5	58	159	2	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	0.88
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (prot)	1770	5072		1770	4948			1678		1770	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (perm)	1770	5072		1770	4948			1678		1770	1863	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	561	9	7	253	47	33	5	63	173	2	39
RTOR Reduction (vph)	0	1	0	0	25	0	0	50	0	0	0	27
Lane Group Flow (vph)	16	569	0	7	275	0	0	51	0	173	2	12
Confl. Bikes (#/hr)			1			2						
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												4
Actuated Green, G (s)	1.8	31.9		0.9	30.9			21.1		31.1	31.1	31.1
Effective Green, g (s)	1.8	31.9		0.9	30.9			21.1		31.1	31.1	31.1
Actuated g/C Ratio	0.02	0.30		0.01	0.29			0.20		0.30	0.30	0.30
Clearance Time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.6		2.0	4.4			2.0		2.7	2.7	2.7
Lane Grp Cap (vph)	30	1540		15	1456			337		524	551	825
v/s Ratio Prot	0.01	0.11		0.00	0.06			0.03		0.10	0.00	
v/s Ratio Perm												0.00
v/c Ratio	0.53	0.37		0.47	0.19			0.15		0.33	0.00	0.01
Uniform Delay, d1	51.2	28.7		51.8	27.7			34.6		28.8	26.0	26.1
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Incremental Delay, d2	8.8	0.7		8.1	0.3			0.9		1.7	0.0	0.0
Delay (s)	60.0	29.3		59.9	28.0			35.5		30.5	26.0	26.1
Level of Service	E	C		E	C			D		C	C	C
Approach Delay (s)		30.2			28.7			35.5			29.7	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	20.1
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
1: Nobel Dr. & Shoreline Dr.

Existing PM  
12/3/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	302	39	48	893	180	22	12	15	33	8	25
Future Volume (vph)	34	302	39	48	893	180	22	12	15	33	8	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	0.88
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97			0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (prot)	1770	4986		1770	4938			1747		1770	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (perm)	1770	4986		1770	4938			1747		1770	1863	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	328	42	52	971	196	24	13	16	36	9	27
RTOR Reduction (vph)	0	15	0	0	28	0	0	13	0	0	0	20
Lane Group Flow (vph)	37	355	0	52	1139	0	0	40	0	36	9	7
Confl. Bikes (#/hr)			2			3						
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												4
Actuated Green, G (s)	2.8	29.5		6.3	32.9			20.1		29.1	29.1	29.1
Effective Green, g (s)	2.8	29.5		6.3	32.9			20.1		29.1	29.1	29.1
Actuated g/C Ratio	0.03	0.28		0.06	0.31			0.19		0.28	0.28	0.28
Clearance Time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.6		2.0	4.4			2.0		2.7	2.7	2.7
Lane Grp Cap (vph)	47	1400		106	1547			334		490	516	772
w/s Ratio Prot	0.02	0.07		0.03	0.23			0.02		0.02	0.00	
w/s Ratio Perm												0.00
Vo Ratio	0.79	0.25		0.49	0.74			0.12		0.07	0.02	0.01
Uniform Delay, d1	50.8	29.2		47.8	32.2			35.1		28.0	27.6	27.5
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Incremental Delay, d2	54.3	0.4		1.3	3.2			0.7		0.3	0.1	0.0
Delay (s)	105.1	29.7		49.1	35.3			35.9		28.3	27.6	27.5
Level of Service	F	C		D	D			D		C	C	C
Approach Delay (s)		36.5			35.9			35.9			27.9	
Approach LOS		D			D			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			35.7			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)			20.1			
Intersection Capacity Utilization			46.7%			ICU Level of Service			A			
Analysis Period (min)			15									
c - Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
1: Nobel Dr. & Shoreline Dr.

Existing + Project AM  
12/3/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑		↖	↑	↗
Traffic Volume (vph)	15	516	14	13	235	43	34	5	64	159	2	36
Future Volume (vph)	15	516	14	13	235	43	34	5	64	159	2	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	0.88
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Rfbp, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (prot)	1770	5063		1770	4949			1678		1770	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (perm)	1770	5063		1770	4949			1678		1770	1863	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	561	15	14	255	47	37	5	70	173	2	39
RTOR Reduction (vph)	0	2	0	0	24	0	0	55	0	0	0	28
Lane Group Flow (vph)	16	574	0	14	278	0	0	57	0	173	2	11
Confl. Bikes (#/hr)			1			2						
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												4
Actuated Green, G (s)	1.8	31.2		2.6	31.9			22.1		29.1	29.1	29.1
Effective Green, g (s)	1.8	31.2		2.6	31.9			22.1		29.1	29.1	29.1
Actuated g/C Ratio	0.02	0.30		0.02	0.30			0.21		0.28	0.28	0.28
Clearance Time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Vehicle Extension (s)	2.0	4.6		2.0	4.4			2.0		2.7	2.7	2.7
Lane Grp Cap (vph)	30	1504		43	1503			353		490	516	772
v/s Ratio Prot	c0.01	c0.11		0.01	0.06			c0.03		c0.10	0.00	
v/s Ratio Perm												0.00
v/c Ratio	0.63	0.38		0.33	0.18			0.16		0.35	0.00	0.01
Uniform Delay, d1	51.2	29.3		50.3	27.0			33.9		30.4	27.5	27.5
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Incremental Delay, d2	8.8	0.7		1.6	0.3			1.0		2.0	0.0	0.0
Delay (s)	60.0	30.0		51.9	27.2			34.8		32.4	27.5	27.6
Level of Service	E	C		D	C			C		C	C	C
Approach Delay (s)		30.8			28.3			34.8			31.5	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay	30.7			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.31											
Actuated Cycle Length (s)	105.0			Sum of lost time (s)			20.1					
Intersection Capacity Utilization	36.9%			ICU Level of Service			A					
Analysis Period (min)	15											
c - Critical Lane Group												

HCM Signalized Intersection Capacity Analysis  
 1: Nobel Dr. & Shoreline Dr.

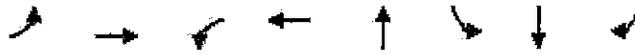
Existing + Project PM  
 12/3/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕		↖	↑	↗
Traffic Volume (vph)	34	302	41	49	895	180	22	12	15	33	8	25
Future Volume (vph)	34	302	41	49	895	180	22	12	15	33	8	25
Deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00		1.00	1.00	0.88
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Fipb, ped/bikes	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.97			0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (prot)	1770	4980		1770	4938			1747		1770	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (perm)	1770	4980		1770	4938			1747		1770	1863	2787
Peak-hour factor PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	328	45	53	973	196	24	13	16	36	9	27
RTOR Reduction (vph)	0	17	0	0	28	0	0	13	0	0	0	20
Lane Group Flow (vph)	37	356	0	53	1141	0	0	40	0	36	9	7
Confl. Bikes (#/hr)			2			3						
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												4
Actuated Green, G (s)	2.8	29.1		6.7	32.9			20.1		29.1	29.1	29.1
Effective Green, g (s)	2.8	29.1		6.7	32.9			20.1		29.1	29.1	29.1
Actuated g/C Ratio	0.03	0.28		0.06	0.31			0.19		0.28	0.28	0.28
Clearance Time (s)	4.4	5.8		4.4	5.9			4.9		4.9	4.9	4.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	47	1380		112	1547			334		490	516	772
v/s Ratio Prot	0.02	0.07		0.03	0.23			0.02		0.02	0.00	
v/s Ratio Perm												0.00
v/c Ratio	0.79	0.26		0.47	0.74			0.12		0.07	0.02	0.01
Uniform Delay, d1	50.8	29.5		47.4	32.2			35.1		28.0	27.6	27.5
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	1.00
Incremental Delay, d2	57.7	0.5		3.1	3.2			0.7		0.3	0.1	0.0
Delay (s)	108.5	30.0		50.6	35.4			35.9		28.3	27.6	27.5
Level of Service	F	C		D	D			D		C	C	C
Approach Delay (s)		37.1			36.0			35.9			27.9	
Approach LOS		D			D			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			35.9			HCM 2000 Level of Service					D	
HCM 2000 Volume to Capacity ratio			0.37									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)				20.1		
Intersection Capacity Utilization			46.7%			ICU Level of Service				A		
Analysis Period (min)			15									
c - Critical Lane Group												

Queues  
1: Nobel Dr. & Shoreline Dr.

Existing + Project AM  
12/3/2015

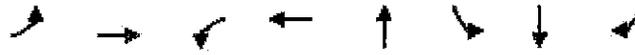


Lane Group	EFL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	16	576	14	302	112	173	2	39
v/c Ratio	0.21	0.35	0.15	0.18	0.27	0.35	0.00	0.04
Control Delay	55.0	28.8	50.7	23.4	16.9	32.9	27.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	28.8	50.7	23.4	16.9	32.9	27.5	0.1
Queue Length 50th (ft)	11	100	9	43	23	93	1	0
Queue Length 95th (ft)	34	154	30	74	71	155	7	0
Internal Link Dist (ft)		1291		1717	113		705	
Turn Bay Length (ft)	250		250			250		
Base Capacity (vph)	77	1634	178	1650	408	490	516	896
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.35	0.08	0.18	0.27	0.35	0.00	0.04

Intersection Summary

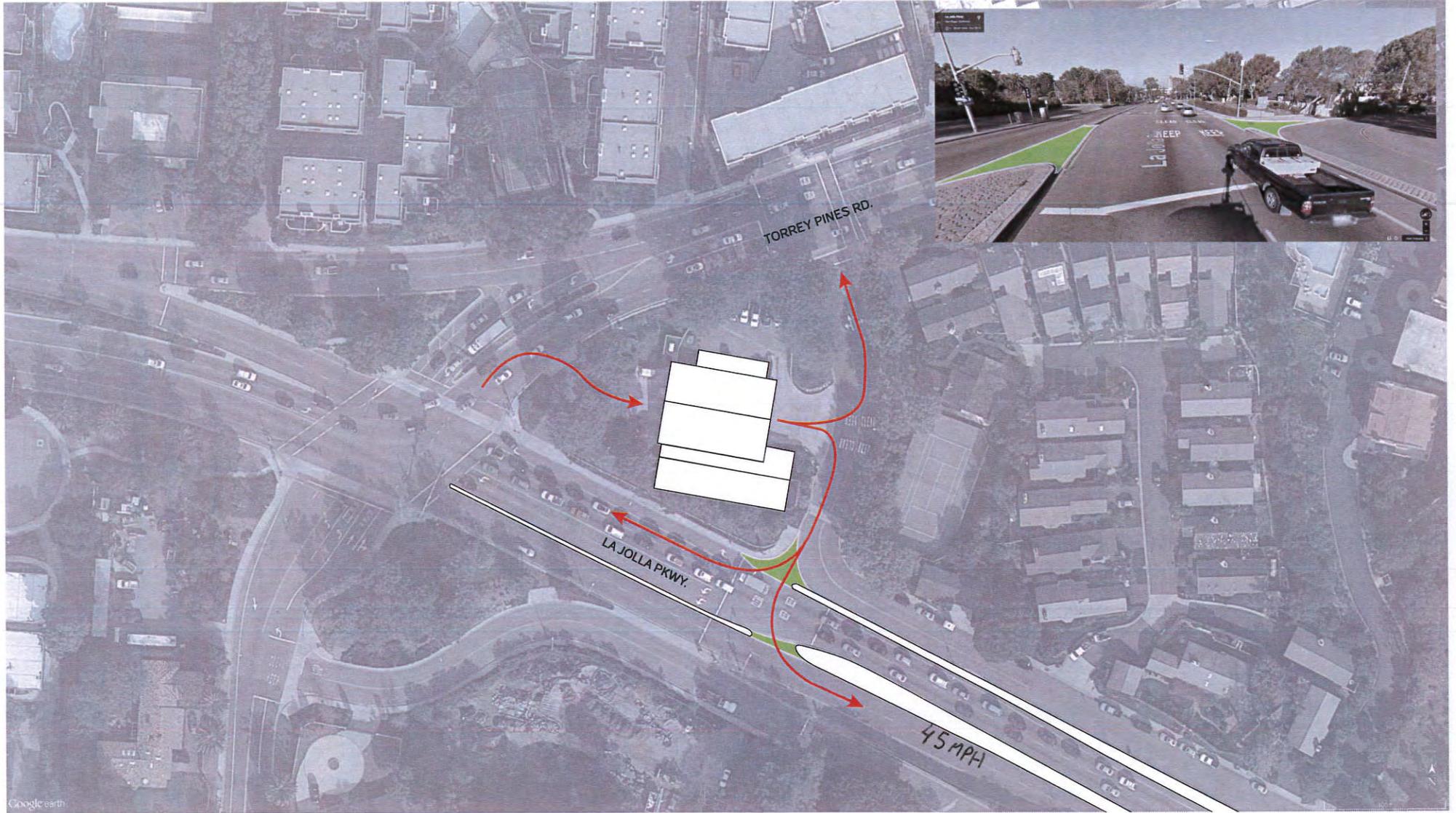
Queues  
1: Nobel Dr. & Shoreline Dr.

Existing + Project PM  
12/3/2015

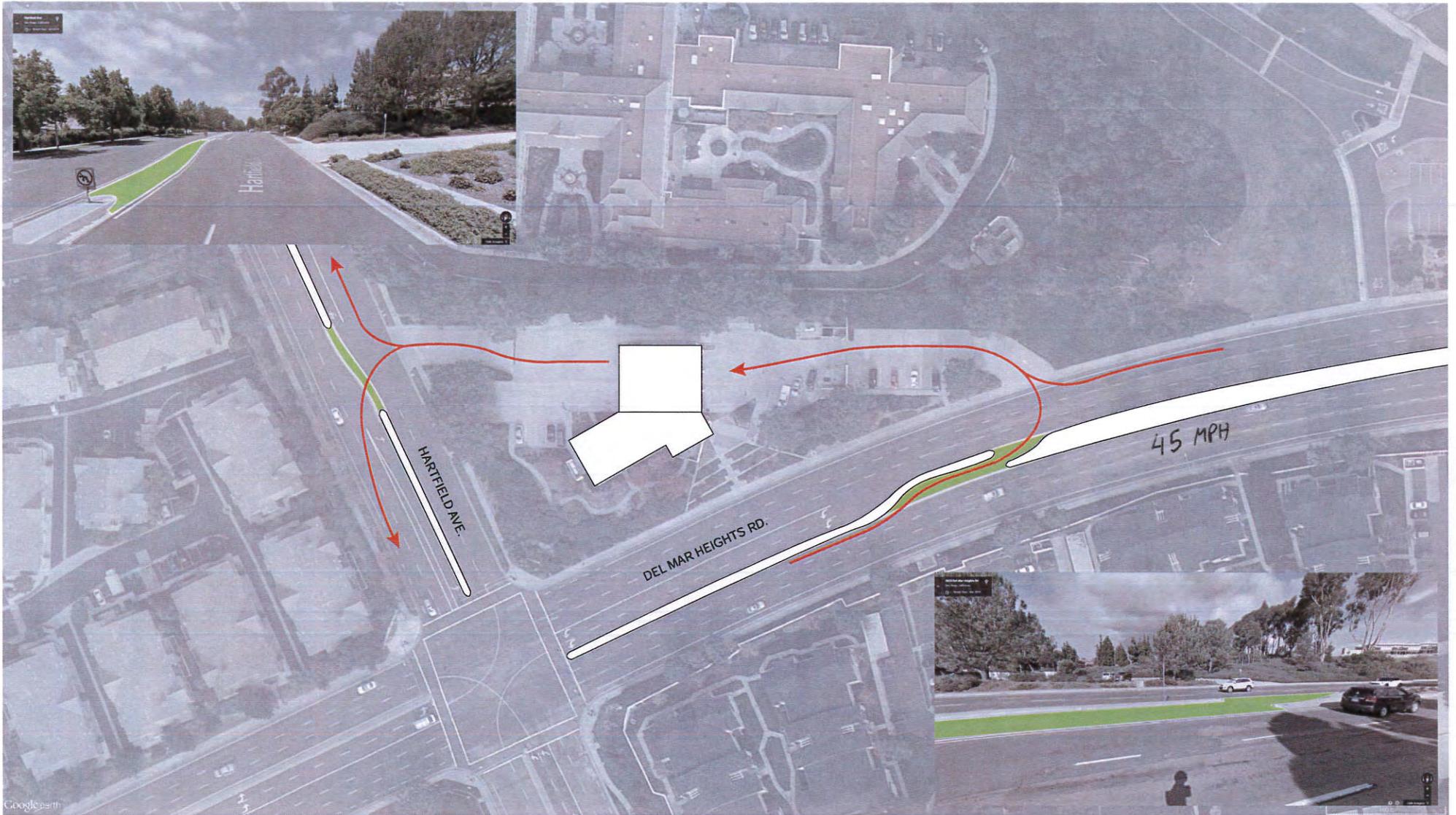


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	37	373	53	1169	53	36	9	27
v/c Ratio	0.47	0.26	0.41	0.71	0.15	0.07	0.02	0.03
Control Delay	68.4	28.6	55.5	33.1	28.1	28.6	27.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	28.6	55.5	33.1	28.1	28.6	27.9	0.1
Queue Length 50th (ft)	25	68	34	254	21	18	4	0
Queue Length 95th (ft)	#65	97	74	310	55	43	17	0
Internal Link Dist. (ft)		1291		1717	113		705	
Turn Bay Length (ft)	250		250			250		
Base Capacity (vph)	79	1440	148	1656	347	490	516	864
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.26	0.36	0.71	0.15	0.07	0.02	0.03

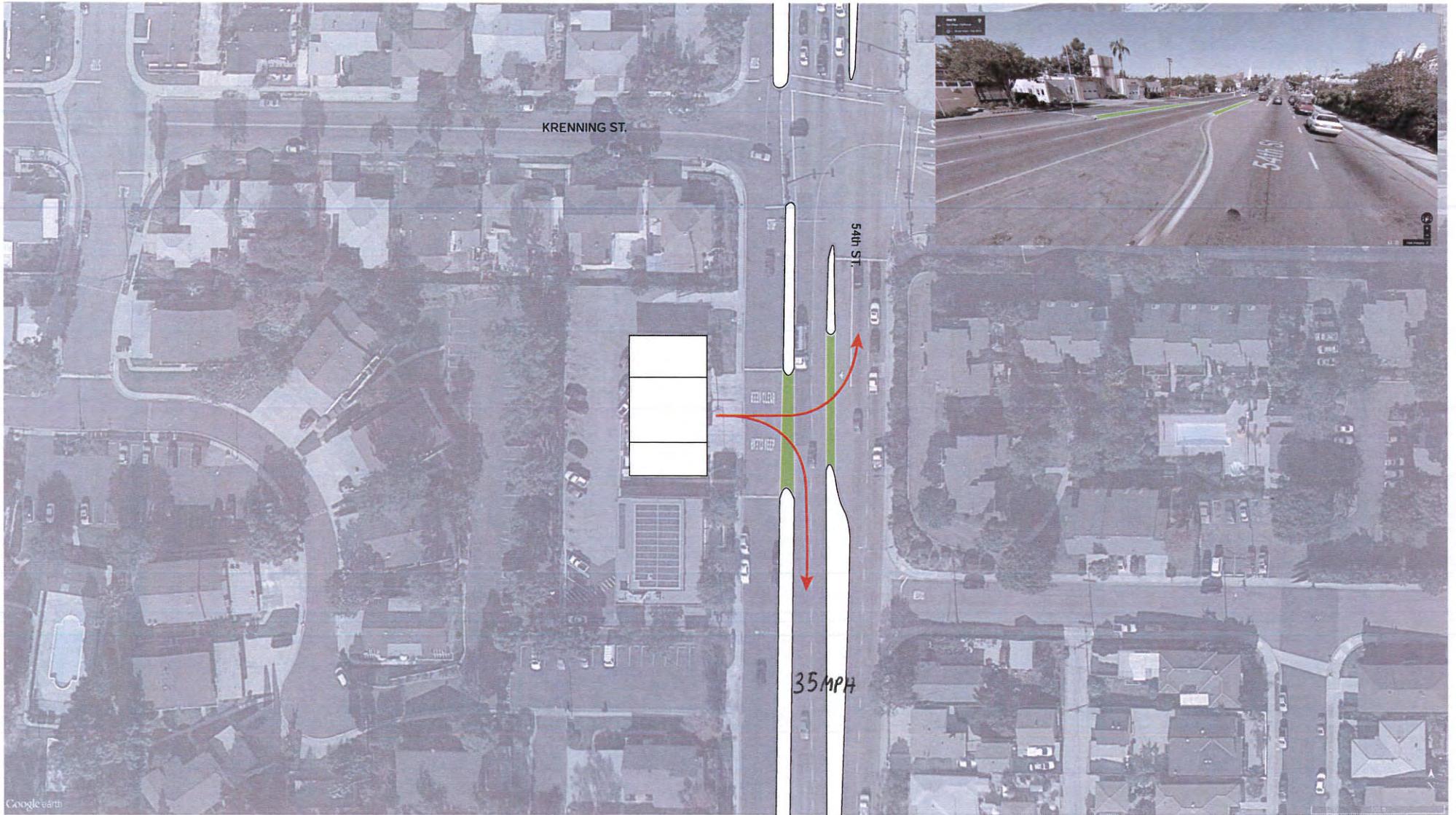
Queues shown in maximum after two cycles.



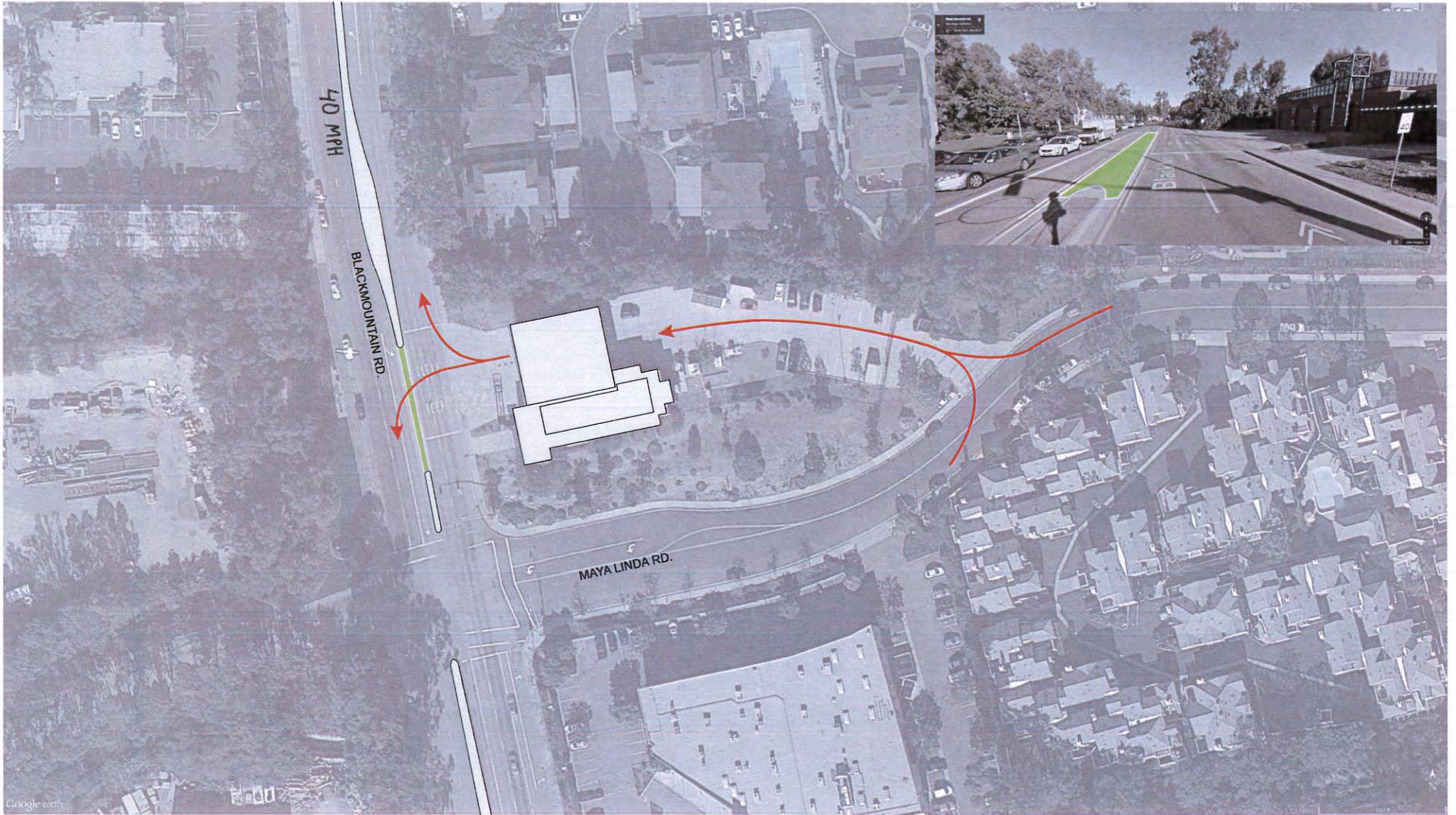
FIRE STATION 9 LA JOLLA



FIRE STATION 24 CARMEL VALLEY



FIRE STATION 26 REDWOOD VILLAGE



Fire Station No.	LOCATION	ADDRESS	RESPONSE EXIT PATH NOTES	Drive Through Bay	APPARATUS
<a href="#">Station 1</a>	Downtown	<a href="#">1222 First Avenue, 92101</a>	Urban Condition	N	Battalion 1, Engine 1 and 201, Truck 1, Light & Air 1, Chem Rig 1, Medic 1, Mobile Canteen 1, X-Ray 1,
<a href="#">Station 2</a>	Closed		Combined with No 1.		
<a href="#">Station 3</a>	Little Italy	<a href="#">725 West Kalmia Street, 92101</a>	Cul de sac in a residential neighborhood	Y	Engine 3
<a href="#">Station 4</a>	East Village	<a href="#">404 8th Avenue, 92101</a>	Urban Condition	N	Engine 4, Heavy Rescue 4
<a href="#">Station 5</a>	Hillcrest	<a href="#">3902 9th Avenue, 92103</a>	At traffic signaled T intersection on the border of residential / commercial neighborhood. Bound by University Ave. & Alley	Y	Battalion 2, Engine 5
<a href="#">Station 6</a>	Otay Mesa	<a href="#">693 Twining Avenue, 92154</a>	At traffic signaled intersection in a residential neighborhood	N	Engine 6
<a href="#">Station 7</a>	Barrio Logan	<a href="#">944 Cesar E. Chavez Parkway, 92113</a>	At traffic signaled intersection of residential / mixed-use neighborhood. Across the street from Mercado	N	Engine 7
<a href="#">Station 8</a>	Mission Hills	<a href="#">3974 Goldfinch Street, 92103</a>	One property away from traffic signaled intersection of residential / commercial neighborhood	N	Engine 8
<a href="#">Station 9</a>	La Jolla	<a href="#">7870 Ardath Lane, 92037</a>	Off of an interior street with access to La Jolla Pkwy and torrey Pines Rd. Special curb/sidewalk cut and median break for response exit onto La Jolla Pkwy.	Y	Engine 9, Paramedic 9
<a href="#">Station 10</a>	Mid-City	<a href="#">4605 62nd Street, 92115</a>	Non signaled mid block residential neighborhood	Y	Battalion 4, Engine 10, Truck 10, Brush 10
<a href="#">Station 11</a>	Golden Hill	<a href="#">945 25th Street, 92102</a>	At traffic signal intersection of residential / commercial neighborhood	N	Engine 11, Truck 11, Paramedic 11
<a href="#">Station 12</a>	Lincoln Park/Valencia Park	<a href="#">4964 Imperial Avenue, 92113</a>	At traffic signaled intersection of residential / commercial neighborhood	N	Battalion 6, Engine 12, Truck 12, Paramedic 12
<a href="#">Station 13</a>	La Jolla	<a href="#">809 Nautilus Street, 92037</a>	Non signaled mid block residential neighborhood	N	Engine 13
<a href="#">Station 14</a>	North Park	<a href="#">4011 32nd Street, 92104</a>	At traffic signal intersection in a residential neighborhood. Bound by 32 St. & Alley	Y	Engine 14, Truck 14, Brush 14
<a href="#">Station 15</a>	Ocean Beach	<a href="#">4711 Voltaire Street, 92107</a>	At traffic signal intersection in a residential / commercial neighborhood	N	Engine 15
<a href="#">Station 16</a>	La Jolla	<a href="#">2110 Via Casa Alta, 92037</a>	Non signaled mid block residential neighborhood	N	Engine 16
<a href="#">Station 17</a>	City Heights	<a href="#">4206 Chamoune Avenue 92115</a>	At a 4-way stop intersection in a residential neighborhood	N	Engine 17
<a href="#">Station 18</a>	Normal Heights	<a href="#">4676 Felton Street, 92116</a>	Non signaled mid block residential neighborhood. Return to station is through a small alley	Y	Engine 18, Paramedic 18
<a href="#">Station 19</a>	Mountain View/Logan Heights	<a href="#">3434 Ocean View Blvd., 92113</a>	Located mid block next to the I-15 on ramp in a residential neighborhood	Y	Engine 19
<a href="#">Station 20</a>	Ocean Beach	<a href="#">3305 Kemper Street, 92110</a>	Located mid block near a traffic signaled intersection in a commercial area.	N	Engine 20, Truck 20, Paramedic 20
<a href="#">Station 21</a>	Pacific Beach	<a href="#">750 Grand Avenue, 92109</a>	At traffic signal intersection in a commercial neighborhood	Y	Engine 21, Truck 21, Paramedic 21
Fire Station No.	LOCATION	ADDRESS	RESPONSE EXIT PATH NOTES	Drive Through Bay	APPARATUS
<a href="#">Station 22</a>	Point Loma	<a href="#">1055 Catalina Blvd., 92107</a>	Non signaled mid block residential neighborhood	N	Engine 22
<a href="#">Station 23</a>	Mission Valley	<a href="#">2190 Comstock Street, 92111</a>	At traffic signal intersection in a residential / commercial neighborhood	N	Engine 23
<a href="#">Station 24</a>	Carmel Valley	<a href="#">13077 Hartfield Avenue, 92130-1505</a>	At signaled intersection in residential neighborhood. Median cuts for both entrance and exit to allow for maximum flexibility. Median cuts	Y	Engine 24, Brush 24, Paramedic 24
<a href="#">Station 25</a>	Bay Park	<a href="#">1972 Chicago Street, 92110</a>	Non signaled mid block residential neighborhood on a small interstitial street	N	Battalion 3, Engine 25

<a href="#">Station 26</a>	Redwood Village	<a href="#">2850 54th Street, 92105</a>	Non signaled mid block residential neighborhood on a small side street. Median is broken to allow for convenient entry exit	N	Engine 26, Paramedic 26
<a href="#">Station 27</a>	Clairemont	<a href="#">5064 Clairemont Drive, 92117</a>	Non signaled mid block residential / commercial neighborhood	N	Engine 27
<a href="#">Station 28</a>	Serra Mesa	<a href="#">3880 Kearny Villa Road, 92123</a>	Non signaled mid block industrial neighborhood	N	Engine 28, Truck 28, Crash 28, Foam 28, Water Tender 28
<a href="#">Station 29</a>	Verbena	<a href="#">198 W. San Ysidro Blvd., 92173</a>	Non signaled mid block residential / commercial neighborhood	Y	Engine 29, Truck 29, Brush 29, Paramedic 29
<a href="#">Station 30</a>	South San Diego	<a href="#">2265 Coronado Avenue, 92054</a>	Non signaled mid block residential / commercial neighborhood	N	Engine 30, Paramedic 30
<a href="#">Station 31</a>	Del Cerro	<a href="#">6002 Camino Rico, 92120</a>	At traffic signaled intersection in a residential neighborhood	N	Engine 31, Paramedic 31
<a href="#">Station 32</a>	Bay Terraces	<a href="#">484 Briarwood Road, 92114</a>	At traffic signaled intersection in a residential neighborhood	N	Engine 32, Paramedic 32
<a href="#">Station 33</a>	Rancho Bernardo	<a href="#">16966 Bernardo Center Drive, 92128</a>	At traffic signaled intersection in a commercial neighborhood	N	Engine 33, Brush 33, Paramedic 33
<a href="#">Station 34</a>	San Carlos	<a href="#">6565 Cowles Mountain Blvd., 92119</a>	Non signaled mid block residential neighborhood	N	Engine 34, Brush 34
<a href="#">Station 35</a>	University City	<a href="#">4285 Eastgate Mall, 92037</a>	At traffic signaled intersection in a commercial neighborhood	N	Battalion 5, Engine 35, Truck 35, Chem Rig 35, Brush 35
<a href="#">Station 36</a>	Clairemont	<a href="#">5855 Chateau Drive, 92117</a>	Non signaled mid block residential neighborhood	N	Engine 36, Paramedic 36
<a href="#">Station 37</a>	Scripps Ranch	<a href="#">11640 Spring Canyon Road, 92131</a>	At traffic signaled intersection in a residential neighborhood	Y	Engine 37, Brush 37, Paramedic 37
<a href="#">Station 38</a>	Mira Mesa	<a href="#">8441 New Salem Street, 92126</a>	Non signaled mid block residential / commercial neighborhood	Y	Engine 38, Brush 38, Paramedic 38
<a href="#">Station 39</a>	Tierra Santa	<a href="#">4949 La Cuenta Drive, 92124</a>	Non signaled mid block residential / commercial neighborhood	Y	Engine 39, Paramedic 39
<a href="#">Station 40</a>	Rancho Penasquitos	<a href="#">13393 Salmon River Road, 92129</a>	At traffic signaled intersection in a residential / commercial neighborhood	Y	Engine 40, Truck 40, Brush 40, Light & Air 40, Water Tender 40, Paramedic 40
<a href="#">Station 41</a>	Sorrento Valley	<a href="#">4914 Carroll Canyon Rd, 92138</a>	At traffic signaled intersection in a industrial neighborhood	Y	Engine 41, Paramedic 41, US&R 41
<a href="#">Station 42</a>	Carmel Mountain	<a href="#">12110 World Trade Drive, 92128</a>	Located mid block near a traffic signaled intersection in a commercial area.	Y	Engine 42
<a href="#">Station 43</a>	Otay Mesa	<a href="#">1590 La Media Road, 92154</a>	At traffic signaled intersection in a industrial neighborhood	Y	Engine 43, Brush 43, Crash 43
Fire Station No.	LOCATION	ADDRESS	RESPONSE EXIT PATH NOTES	Drive Through Bay	APPARATUS
<a href="#">Station 44</a>	Mira Mesa	<a href="#">10011 Black Mountain Road, 92126</a>	At traffic signaled intersection in a residential industrial neighborhood. Breaks median on exit from station for left turn	Y	Battalion 7, Engine 44, Truck 44, HAZMAT 1 and 2
<a href="#">Station 45</a>	Mission Valley	<a href="#">Qualcomm Stadium Parking Lot</a>		Y	Engine 45
<a href="#">Station 46</a>	Black Mountain Ranch	<a href="#">14556 Lazanja Drive, 92127</a>	At traffic signaled T-intersection in a residential neighborhood	Y	Engine 46
<a href="#">Station 47</a>	Pacific Highlands Ranch	<a href="#">6041 Edgewood Court Bend, 92130</a>	At cul de sac (through way to school parking lot) in a residential neighborhood	Y	Engine 47
<a href="#">Airport Station - San Diego International Airport</a>		<a href="#">3698 Pacific Highway, 92101</a>		?	Crash 1, 2, 3, and 5
<a href="#">Fire Communications Center</a>		<a href="#">3750 Kearny Villa Road, 92123</a>		?	Communications 1

### ***Peak Hour Incident Percentage Determination***

To determine percentage of incidents occurring during the peak hour data for the study location was used. This data was based on calls from neighboring stations (35, 27 and 9) which responded to calls in the study area.

First we determined number of calls per year, during a three year period and calculated the percentage of incidents occurring during the peak hour (Figure 1.) This number came to be 10% (rounded up) of all incidents. This would give us roughly 1 call during peak hour.

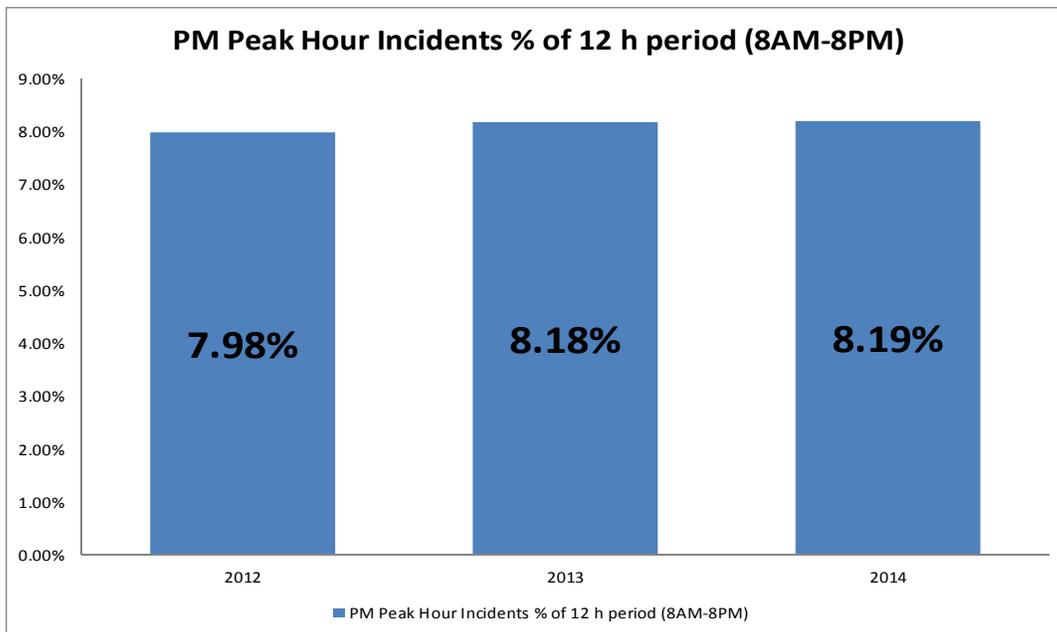


Figure 1. Percentage of calls occurring during the PM peak hour

YEAR	PM PEAK COUNT 5PM-6PM	12 HOUR TOTAL COUNT	Percentage of PM peak calls
2012	271	3398	<b>7.98%</b>
2013	314	3840	<b>8.18%</b>
2014	325	3967	<b>8.19%</b>

Based on data from Fire Station 35, 27 & 9, 8AM to 8PM Incident data (SDFD, Response Planning)

In order to investigate variability of calls within the peak hour (days with more than one call during the peak hour) we looked at the distribution of calls during the peak hour and found a significant amount of days with more than one call (primarily 2 calls/peak).

Looking at Figure 3 we can see that out of the 325 incidents during the PM peak hour 171 occurred with 1 incident per peak and 90 incidents with 2 incidents during the peak, or stated in another way 171 days with one incident and 45 days (90/2) with two incidents during the peak hour (Figure 2.)

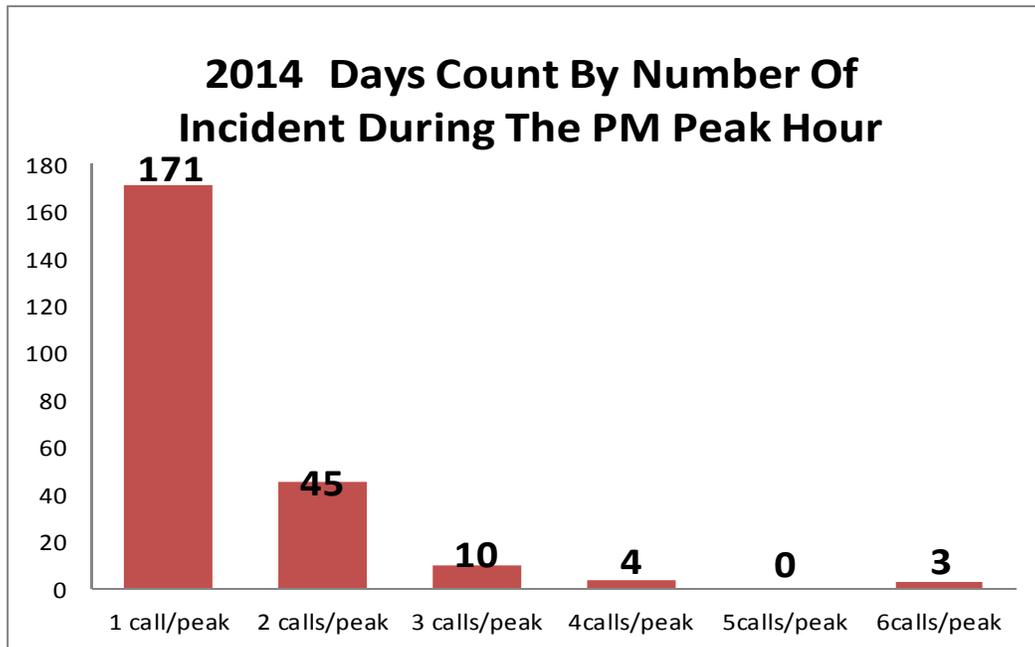


Figure 2. Days count by number of incidents during the PM Peak Hour

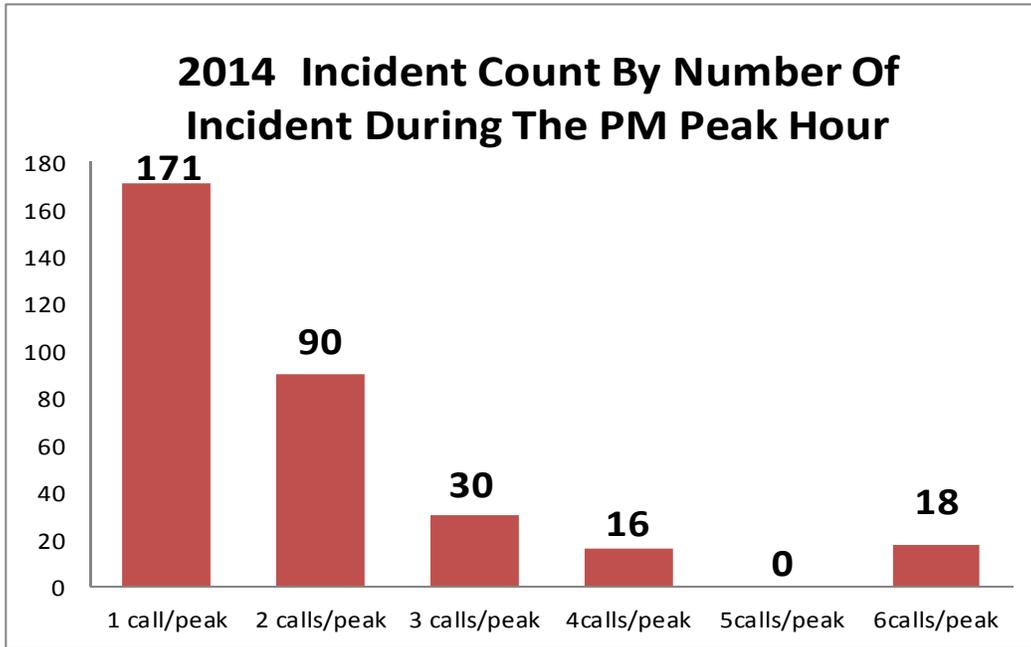


Figure 3. Incident count by number of incidents during PM Peak Hour

Summary

When looking at the number of incidents occurring within the same day we found a significant number of days with 2 or more incidents during the peak hour. To account for this fact but not to overestimate based on the worst case scenario (6calls during peak) we used the 20% (2 incidents per peak) for our estimate as there were 45 days with that exact number of incidents during the peak hour.

The twenty percent is based on findings. This evaluation accounts for variability of incidents (calls placed) during the peak hour.

**EXHIBIT I**  
**GEOTECHNICAL EVALUATION & RESPONSES**

**GEOTECHNICAL EVALUATION  
PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA**

**PREPARED FOR:**  
Safdie Rabines Architects  
925 Fort Stockton Drive  
San Diego, California 92103

**PREPARED BY:**  
Ninyo & Moore  
Geotechnical and Environmental Sciences Consultants  
5710 Ruffin Road  
San Diego, California 92123

August 18, 2016  
Project No. 107954001

August 18, 2016  
Project No. 107954001

Mr. Scott Maas  
Safdie Rabines Architects  
925 Fort Stockton Drive  
San Diego, California 92103

Subject: Geotechnical Evaluation  
Proposed Fire Station No. 50  
Nobel Drive and Shoreline Drive  
San Diego, California

Dear Mr. Maas:

In accordance with your request and authorization, we are providing this geotechnical evaluation for the proposed Fire Station No. 50 to be located at the southeast corner of the intersection of Nobel and Shoreline Drives in San Diego, California. This report presents our geotechnical findings, conclusions, and recommendations regarding the proposed project. Our report was prepared in accordance with our revised proposal dated July 6, 2016.

We appreciate the opportunity to be of service on this project.

Sincerely,  
**NINYO & MOORE**

  
Gabriel Smith, PE  
Project Engineer



  
Kenneth H. Mansir, Jr.  
Principal Engineer



  
Gregory T. Farrand, PG, CEG  
Principal Geologist



GLC/GS/KHM/GTF/gg

Distribution: (1) Addressee

**TABLE OF CONTENTS**

	<u>Page</u>
1. INTRODUCTION .....	1
2. SCOPE OF SERVICES .....	1
3. SITE AND PROJECT DESCRIPTION .....	2
4. SUBSURFACE EXPLORATION AND LABORATORY TESTING .....	2
5. GEOLOGY AND SUBSURFACE CONDITIONS .....	3
5.1. Regional Geologic Setting .....	3
5.2. Site Geology .....	4
5.2.1. Fill .....	4
5.2.2. Very Old Paralic Deposits (Qvop <sub>9</sub> ) .....	4
5.2.3. Scripps Formation (Tsc) .....	5
5.3. Groundwater .....	5
6. GEOLOGIC HAZARDS .....	5
6.1. Faulting and Seismicity .....	5
6.1.1. Strong Ground Motion .....	6
6.1.2. Ground Rupture .....	7
6.1.3. Liquefaction and Seismically Induced Settlement .....	7
6.1.4. Tsunamis .....	8
6.2. Landsliding .....	8
6.3. Flood Hazards .....	8
6.4. City of San Diego Seismic Safety Study .....	8
7. CONCLUSIONS .....	9
8. RECOMMENDATIONS .....	10
8.1. Earthwork .....	10
8.1.1. Site Preparation .....	10
8.1.2. Excavation Characteristics .....	10
8.1.3. Remedial Grading .....	11
8.1.4. Cut-Fill Transitions .....	12
8.1.5. Materials for Fill .....	12
8.1.6. Compacted Fill .....	13
8.1.7. Utility Trench Backfill .....	13
8.1.8. Temporary Excavations .....	14
8.1.9. Temporary Shoring .....	15
8.1.10. Thrust Blocks .....	15
8.1.11. New Slopes .....	15
8.1.12. Drainage .....	16
8.2. Seismic Design Parameters .....	17
8.3. Foundations .....	17
8.3.1. Shallow Foundations .....	17
8.3.2. Shallow Foundation Lateral Earth Pressures .....	18

8.3.3. Static Settlement.....	19
8.4. Floor Slabs for Non-Apparatus Bay .....	19
8.5. Floor Slabs for Apparatus Bay .....	19
8.6. Retaining Walls .....	20
8.7. Concrete Flatwork .....	20
8.8. Corrosion .....	21
8.9. Concrete.....	21
8.10. Flexible Pavement Design.....	22
8.11. Rigid Pavement Design .....	22
8.12. Infiltration Devices .....	23
8.13. Pre-Construction Conference.....	23
8.14. Plan Review and Construction Observation .....	23
9. LIMITATIONS.....	24
10. REFERENCES .....	26

**Tables**

Table 1 – Principal Active Faults .....	6
Table 2 – 2013 California Building Code Seismic Design Criteria.....	17
Table 3 – Recommended Preliminary Pavement Sections.....	22

**Figures**

Figure 1 – Site Location	
Figure 2 – Boring Locations	
Figure 3 – Geology	
Figures 4A and 4B – Geologic Cross Sections A-A’ and B-B’	
Figure 5 – Fault Locations	
Figure 6 – Geologic Hazards	
Figure 7 – Lateral Earth Pressures for Braced Excavation	
Figure 8 – Thrust Block Lateral Earth Pressure Diagram	
Figure 9 – Keying and Benching Detail	
Figure 10 – Lateral Earth Pressures for Yielding Retaining Walls	
Figure 11 – Lateral Earth Pressures for Restrained Retaining Walls	
Figure 12 – Retaining Wall Drainage Detail	

**Appendices**

Appendix A – Boring Logs	
Appendix B – Laboratory Testing	

## **1. INTRODUCTION**

In accordance with your request, we are providing this geotechnical evaluation for the construction of the proposed Fire Station No. 50 to be located at the southeast corner of the intersection of Nobel and Shoreline Drives in San Diego, California. This report presents the results of our field exploration and laboratory testing, our conclusions regarding the geotechnical conditions at the subject site, and our recommendations for the design and earthwork construction of this project.

## **2. SCOPE OF SERVICES**

The scope of services for this study included the following:

- Reviewing readily available published and in-house geotechnical literature, topographic maps, geologic data, fault maps, aerial photographs, and provided site information.
- Performing a field reconnaissance to observe site conditions and to locate and mark the exploratory borings.
- Notifying Underground Service Alert (USA) to clear the boring locations for the potential presence of underground utilities.
- Retaining a subcontractor to perform limited site clearing to provide access to the boring locations.
- Performing a subsurface evaluation that consisted of the drilling, logging, and sampling of five exploratory borings. Relatively undisturbed and bulk soil samples were obtained at selected intervals from the borings.
- Performing geotechnical laboratory testing on selected samples to evaluate design parameters.
- Compiling and analyzing the data obtained from our background review, site reconnaissance, subsurface evaluation, and laboratory testing.
- Preparing this report presenting our findings, conclusions, and recommendations regarding the geotechnical design and construction of the new fire station.

### **3. SITE AND PROJECT DESCRIPTION**

The proposed fire station site consists of an approximately 1-acre, irregularly shaped area of land located south of Nobel Drive and east of Shoreline Drive in the University City area of San Diego (Figure 1). The site coordinates are approximately 32.8645°N latitude and -117.2003°W longitude. The project is located within what is currently an open-space area of Rose Canyon. Topography of the project site includes relatively flat areas adjacent to Nobel Drive and gentle slopes (i.e., slope inclinations ranging between approximately 3 [horizontal] to 1 [vertical] and 4 to 1) that descend south into Rose Canyon. Elevations at the site range from approximately 290 feet above mean sea level (MSL) at the southeastern portion to approximately 315 feet MSL in the northeastern corner and 305 feet MSL in the northwestern corner. The site is currently undeveloped. Several dirt paths and wire fences are present throughout the native vegetation, which includes low-lying grasses, shrubs, and native chaparral. Based on our review of background information, including historic aerial photographs (Historic Aerials), a portion of the site was periodically used as a construction staging area from approximately 2000 to 2006.

It is anticipated that the new fire station will be three stories in height, approximately 12,350 square-feet, and will include an apparatus bay, dorm rooms, kitchen, watch room, ready room, and training classroom. Parking and driveway areas will be constructed on the west and east sides of the fire station and will provide access to and from Shoreline Drive cul-de-sac and Nobel Drive, respectively. Concrete-lined bioswales are proposed along the southern side of the fire station. To facilitate construction of the improvements cuts up to approximately 6 feet will be performed within the building pad area. In addition, the eastern driveway will require construction of a new approximately 12-foot tall fill slope with a slope inclination of approximately 2 (horizontal) to 1 (vertical).

### **4. SUBSURFACE EXPLORATION AND LABORATORY TESTING**

Our subsurface exploration was conducted on July 19, 2016, and consisted of the drilling, logging, and sampling of five, small-diameter exploratory borings (HA-1, B-1, B-2, B-3, and B-4). Borings were drilled to depths of up to approximately 20 feet with manual equipment and a truck-mounted drill rig equipped with hollow-stem augers. Drive and bulk soil samples were ob-

tained from the borings and transported to our in-house geotechnical laboratory for testing. The approximate locations of the exploratory borings are shown on Figure 2. Logs of the borings are included in Appendix A.

Laboratory testing of representative soil samples included an evaluation of in-situ dry density and moisture content, gradation, Atterberg Limits, shear strength, expansion potential, soil corrosivity, and R-value. The results of in-situ dry density and moisture content tests are presented on the boring logs in Appendix A. The results of the other laboratory tests performed are presented in Appendix B.

## **5. GEOLOGY AND SUBSURFACE CONDITIONS**

Our findings regarding regional and local geology, including faulting and seismicity, landslides, and groundwater conditions at the subject site are provided in the following sections. Figure 3 is a geologic map of the project area, Figures 4A and 4B are geologic cross section of the site, and Figure 5 is a regional fault location map.

### **5.1. Regional Geologic Setting**

The project area is situated in the coastal foothill section of the Peninsular Ranges Geomorphic Province. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California (Norris and Webb, 1990; Harden, 2004). The province varies in width from approximately 30 to 100 miles. In general, the province consists of rugged mountains underlain by Jurassic metavolcanic and metasedimentary rocks, and Cretaceous igneous rocks of the southern California batholith. In the coastal portion of the province in San Diego County, the metamorphic and granitic basement rocks are overlain by sedimentary materials that are Tertiary and Quaternary in age.

The Peninsular Ranges Province is traversed by a group of sub-parallel faults and fault zones trending approximately northwest. Several of these faults (Figure 5) are considered active faults. The Elsinore, San Jacinto, and San Andreas faults are active fault systems located northeast of the project area and the Rose Canyon, Coronado Bank, Newport-

Inglewood, and San Clemente faults are active faults located west of the project area. The Rose Canyon Fault Zone, the nearest active fault system, has been mapped approximately 3 miles west of the project site. Major tectonic activity associated with these and other faults within this regional tectonic framework consists primarily of right-lateral, strike-slip movement. The approximate fault-to-site distance was calculated by the United States Geological Survey (2008) National Seismic Hazard Maps database (web-based). Further discussion of faulting relative to the site is provided in the Faulting and Seismicity section of this report.

## **5.2. Site Geology**

Geologic units mapped at the site and encountered during our evaluation included fill, very old paralic deposits, and the Scripps Formation (Kennedy and Tan, 2008). Generalized descriptions of the units anticipated at the site are provided below with more details presented on the boring logs in Appendix A. Geologic cross sections across the site are provided in Figures 4A and 4B.

### **5.2.1. Fill**

Fill was encountered in our borings extending from the surface to depths of up to approximately 6 feet below existing ground surface. As encountered, the fill material generally consists of light brown and reddish to yellowish brown, moist, soft to firm, silty clay and sandy clay, and light brown, moist, loose to medium dense, clayey gravel. Scattered gravel and cobbles were encountered in the fill.

### **5.2.2. Very Old Paralic Deposits (Qvop<sub>9</sub>)**

While not encountered in our exploratory borings, Quaternary-age very old paralic deposits, formerly referred to as the Lindavista Formation, are mapped in the northern portion of the project site (Figure 3; Kennedy and Tan, 2008). The very old paralic deposits are anticipated to consist of reddish brown, moderately to well cemented, silty sandstone with numerous gravels and cobbles. The very old paralic deposits unconformably overlie the Scripps Formation.

### **5.2.3. Scripps Formation (Tsc)**

Materials of the Tertiary-aged Scripps Formation were encountered in our borings underlying the fill materials and extended to the total depths explored. As encountered in our borings, these materials consisted of light gray and light brown, moist, weakly to strongly indurated clayey siltstone and silty claystone, and weakly to strongly cemented sandy siltstone. Strongly indurated/cemented or concretionary zones were encountered within the Scripps Formation.

### **5.3. Groundwater**

Groundwater was not encountered in our exploratory borings. Groundwater is anticipated to be deeper than 40 feet in the project vicinity (SCS&T, 1984; Ninyo & Moore, 1992). However, fluctuations in the groundwater level and local perched conditions may occur due to variations in ground surface topography, subsurface geologic conditions and structure, rainfall, irrigation, and other factors.

## **6. GEOLOGIC HAZARDS**

Geologic hazards such as faulting and seismicity, landsliding, and flooding are discussed in the following sections.

### **6.1. Faulting and Seismicity**

Based on our review of the referenced geologic maps and stereoscopic aerial photographs, as well as on our geologic field mapping, the subject site is not underlain by known active or potentially active faults (i.e., faults that exhibit evidence of ground displacement in the last 11,000 years and 2,000,000 years, respectively). However, the site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion is considered significant during the design life of the proposed structure.

The nearest known active fault is the Rose Canyon fault, located approximately 3 miles west of the site. Table 1 lists selected principal known active faults that may affect the subject site, the maximum moment magnitude ( $M_{max}$ ) and the fault types as published for the California Geological Survey (CGS) by Cao et al. (2003). The approximate fault to site distance was calculated by the USGS National Seismic Hazard Maps – Fault Parameters website (USGS, 2008).

**Table 1 – Principal Active Faults**

<b>Fault</b>	<b>Distance miles (kilometers) <sup>1</sup></b>	<b>Moment Magnitude <sup>1</sup></b>
Rose Canyon	3 (5)	6.9
Coronado Bank	17 (27)	7.4
Newport-Inglewood (Offshore)	24 (39)	7.0
Elsinore (Julian Segment)	35 (56)	7.4
Elsinore (Temecula Segment)	35 (56)	7.1
Earthquake Valley	42 (67)	6.8
Palos Verdes	51 (81)	7.3
Elsinore (Coyote Mountain)	51 (81)	6.9
Elsinore (Glen Ivy Segment)	53 (85)	6.9
San Jacinto (Coyote Creek Segment)	56 (91)	7.0
San Joaquin Hills	57 (93)	7.1
San Jacinto (Anza Segment)	58 (94)	7.3
<b>Note:</b> <sup>1</sup> USGS (2008)		

In general, hazards associated with seismic activity include strong ground motion, ground rupture, liquefaction, seismically induced settlement, and tsunamis. These hazards are discussed in the following sections.

### **6.1.1. Strong Ground Motion**

The 2013 California Building Code (CBC) specifies that the Risk-Targeted, Maximum Considered Earthquake ( $MCE_R$ ) ground motion response accelerations be used to evaluate seismic loads for design of buildings and other structures. The  $MCE_R$  ground motion response accelerations are based on the spectral response accelerations for 5 percent damping in the direction of maximum horizontal response and incorporate a target risk for structural collapse equivalent to 1 percent in 50 years with deterministic limits for near-source effects. The horizontal peak ground acceleration (PGA) that corresponds to the  $MCE_R$  of the site was calculated as 0.44g, using the United States

Geological Survey (USGS, 2013) seismic design tool (web-based). Spectral response acceleration parameters, consistent with the 2013 CBC, are also provided in Section 8.2 for the evaluation of seismic loads on buildings and other structures.

The 2013 CBC specifies that the potential for liquefaction and soil strength loss be evaluated, where applicable, for the Maximum Considered Earthquake Geometric Mean ( $MCE_G$ ) peak ground acceleration with adjustment for site class effects in accordance with the American Society of Civil Engineers (ASCE) 7-10 Standard. The  $MCE_G$  peak ground acceleration is based on the geometric mean peak ground acceleration with a 2 percent probability of exceedance in 50 years. The  $MCE_G$  peak ground acceleration with adjustment for site class effects ( $PGA_M$ ) was calculated as 0.46g using the USGS (USGS, 2013) seismic design tool that yielded a mapped  $MCE_G$  peak ground acceleration of 0.46g for the site and a site coefficient ( $F_{PGA}$ ) of 1.00 for Site Class C.

### **6.1.2. Ground Rupture**

Based on our review of the referenced literature and our subsurface evaluation, no active faults are known to cross the project vicinity. Therefore, the potential for ground rupture due to faulting at the site is considered low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

### **6.1.3. Liquefaction and Seismically Induced Settlement**

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are more susceptible to liquefaction. Based on the relatively dense nature of the materials encountered and absence of a shallow groundwater table, it is our opinion that liquefaction and seismically induced settlement at the subject site are not design considerations.

#### **6.1.4. Tsunamis**

Tsunamis are long wavelength seismic sea waves (long compared to the ocean depth) generated by sudden movements of the ocean bottom during submarine earthquakes, landslides, or volcanic activity. Based on the inland location and elevation of the site, the potential for a tsunami to affect the site is not a design consideration.

#### **6.2. Landsliding**

Based on our review of referenced geologic and topographic maps, literature, and stereoscopic aerial photographs, and our subsurface evaluation, large landslides or indications of deep-seated landsliding have not been mapped or identified underlying the project site. It should be noted that two shallow landslides were identified in exploratory trenches excavated in the adjacent site to the south (SCS&T, 1984). These landslides were noted to occur within a siltstone section of the Scripps Formation and were relatively shallow in depth (i.e., approximately 3.5 to 7 feet). According to the referenced report, the landslides consisted of a zone of fractures that were associated with out-of-slope bedding and soil creep. The landslide materials were described as soft to stiff. Based on our site reconnaissance and our subsurface evaluation, the subject site is underlain by competent materials of Scripps Formation that do not exhibit evidence of similar shallow landsliding, such as fractures and zones of soft clay.

#### **6.3. Flood Hazards**

Based on our review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the project site is located outside of the mapped 100-year flood zone. Therefore, flooding is not a design consideration for the project.

#### **6.4. City of San Diego Seismic Safety Study**

According to the City of San Diego Seismic Safety Study (2008), the project site lies within Hazard Category 54 (Figure 6). Hazard Category 54 is characterized by areas of steeply sloping terrain with unfavorable or fault-controlled geologic structure that possess moderate risk.

## 7. CONCLUSIONS

Based on our review of the referenced background data, subsurface evaluation, and laboratory testing, it is our opinion that construction of the proposed fire station is feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction of the project. In general, the following conclusions were made:

- The project site is underlain by fill materials and Scripps Formation. Although not encountered in our subsurface exploration, very old paralic deposits are mapped at the project site.
- Based on the laboratory test results presented in Appendix B, fill materials and materials derived from the Scripps Formation are clayey in nature and possess a high potential for expansion. These materials are not considered suitable for reuse as compacted fill within the limits of the building pad or as retaining wall backfill.
- Due to the clayey and highly expansive nature of the materials of the fill and Scripps Formation, remedial grading recommendations for the site, including removal of the fill materials, are presented in the following sections.
- Materials of the Scripps Formation are considered suitable for structural support of the proposed improvements.
- Based on our subsurface exploration, excavation of the subsurface materials should be feasible with heavy-duty excavation equipment in good working condition. However, cobbles or strongly cemented and indurated zones should be anticipated to be encountered and additional effort including heavy ripping may be needed during excavation.
- Groundwater was not encountered in our borings. Groundwater is not anticipated to be a design consideration. However, perched zones and seepage may be encountered in some areas.
- The active Rose Canyon fault zone is located approximately 3 miles west of the site. Accordingly, the potential for relatively strong seismic ground motions should be considered in the project design.
- Based on our experience with similar soils in the vicinity of the site, the onsite soils are considered to be corrosive.
- Due to the clayey and expansive nature of the onsite soils, infiltration of storm water is not considered feasible and is not recommended. Design and construction of storm water BMPs (i.e., bioswales) should include impervious lining.

## **8. RECOMMENDATIONS**

Based on our understanding of the project, the following recommendations are provided for the design and construction of the proposed fire station and improvements. The proposed site improvements should be constructed in accordance with the requirements of the applicable governing agencies.

### **8.1. Earthwork**

In general, earthwork should be performed in accordance with the recommendations presented in this report. Ninyo & Moore should be contacted for questions regarding the recommendations or guidelines presented herein.

#### **8.1.1. Site Preparation**

Site preparation should begin with the removal of existing vegetation, utility lines, and other deleterious debris from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside of the proposed excavation and fill areas. The debris and unsuitable material generated during clearing and grubbing should be removed from areas to be graded and disposed of at a legal dumpsite away from the project area.

#### **8.1.2. Excavation Characteristics**

The results of our subsurface exploration indicate that the project site, as presently proposed, is underlain by fill materials, which are underlain by Scripps Formation. Excavation of the subsurface materials should be feasible with heavy-duty excavation equipment in good working condition. As noted, cobbles or cemented and indurated zones should be anticipated to be encountered, and additional effort including heavy ripping may be needed during excavation.

### **8.1.3. Remedial Grading**

Our subsurface evaluation encountered existing fills and formational materials that are clayey and highly expansive in nature. Therefore, we recommend that the existing fill materials at the site be removed down to competent Scripps Formation. Additionally, based on our review of the proposed grading and site plan, the new Fire Station 50 will be underlain by a cut/fill transition. Therefore, we recommend that the building pad be overexcavated to a depth of 3 feet below the pad subgrade elevation or down to competent materials of the Scripps Formation, whichever is deeper. For the purposes of this report, the building pad is defined as the structural footprint (including foundations for attached overhangs, canopies, and other building appurtenances) plus a horizontal distance of 5 feet. Areas of concrete hardscape that are located outside the limits of the building pad (i.e., structural footprint plus a 5-foot horizontal distance) should be overexcavated to a depth of 2 feet below subgrade elevation. The extent and depth of removals should be evaluated by Ninyo & Moore's representative in the field based on the material exposed.

The resulting removal surface should then be scarified approximately 8 inches, moisture conditioned to generally above optimum moisture content, and recompacted to a relative compaction of 90 percent as evaluated by ASTM International (ASTM) Test Method D 1557. Compacted fill for the building pad should be moisture conditioned to generally above optimum moisture content and compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557. On-site excavations are anticipated to produce clayey, highly expansive soils, which are not suitable for backfill within the building pad limits. Therefore, imported select fill materials, as outlined in Section 8.1.5 of this report, are anticipated. It is the contractor's responsibility to notify Ninyo & Moore and the appropriate governing agency when project areas are ready for observation, and to provide reasonable time for that review.

#### **8.1.4. Cut-Fill Transitions**

As noted in the previous section, a cut/fill transition will exist beneath the building pad. Accordingly, recommendations to mitigate the effects of such a transition are provided in the Remedial Grading and Foundation sections of this report. These recommendations include removal of the existing fill materials, overexcavation of the soils beneath the building pad, and deepening of footings to bear on competent Scripps Formation.

#### **8.1.5. Materials for Fill**

Onsite fill materials and materials derived from the Scripps Formation are clayey in nature and possess a high potential for expansion. Therefore, these materials are not considered suitable for reuse within the building pad, as defined in the Remedial Grading section, as wall backfill and/or utility trench backfill. Imported select fill materials, as defined herein, should be used within these areas.

Materials derived from onsite excavations may be reused for construction of slopes, beneath pavements, landscape areas, and other general fill areas. These onsite materials should possess an organic content of less than approximately 3 percent by volume (or 1 percent by weight), not contain rocks or lumps over approximately 3 inches in diameter, and not more than approximately 30 percent larger than  $\frac{3}{4}$  inch.

Imported select fill materials should possess an organic content of less than approximately 3 percent by volume (or 1 percent by weight), be granular soils with a very low to low expansion potential (i.e., an expansion index [EI] of 50 or less as evaluated by the ASTM D 4829), and meet the following gradation. The imported select fill material should be granular, not contain rocks or lumps over approximately 3 inches in diameter, and not more than approximately 30 percent larger than  $\frac{3}{4}$  inch. Import material should also be non-corrosive in accordance with the Caltrans (2012) corrosion guidelines and ACI 318. Materials for use as fill should be evaluated by Ninyo & Moore's representative prior to filling or importing.

#### **8.1.6. Compacted Fill**

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed ground surface by Ninyo & Moore. The evaluation of compaction by the geotechnical consultant should not be considered to preclude any requirements for observation or approval by governing agencies. It is the contractor's responsibility to notify this office and the appropriate governing agency when project areas are ready for observation, and to provide reasonable time for that review.

Fill materials should be moisture conditioned to generally above the laboratory optimum moisture content prior to placement. The optimum moisture content will vary with material type and other factors. Moisture conditioning of fill soils should be generally consistent within the soil mass.

Prior to placement of additional compacted fill material following a delay in the grading operations, the exposed surface of previously compacted fill should be prepared to receive fill. Preparation may include scarification, moisture conditioning, and recompaction.

Compacted fill should be placed in horizontal lifts of approximately 8 inches in loose thickness. Prior to compaction, each lift should be watered or dried as needed to achieve a moisture content generally above the laboratory optimum, mixed, and then compacted by mechanical methods, to a relative compaction of 90 percent as evaluated by ASTM D 1557. The upper 12 inches of subgrade soils beneath vehicular pavements should be compacted to a relative compaction of 95 percent as evaluated by ASTM D 1557. The aggregate base materials beneath vehicular pavements should also be compacted to a relative compaction of 95 percent as evaluated by ASTM D 1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved.

#### **8.1.7. Utility Trench Backfill**

Based on our subsurface evaluation, the on-site fill materials primarily consist of clay and are not suitable for re-use as trench backfill. Trench backfill materials should be free of rocks and lumps greater than approximately 3 inches in diameter, organic mate-

rial, clay lumps, cemented chunks, and debris. We recommend that trench backfill materials be in conformance with the “Greenbook” (Standard Specifications for Public Works) specifications for structure backfill. Fill should be moisture-conditioned to generally above the laboratory optimum. Trench backfill should be compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557 except for the upper 12 inches of the backfill that should be compacted to a relative compaction of 95 percent as evaluated by ASTM D 1557. Lift thickness for backfill will depend on the type of compaction equipment utilized, but fill should generally be placed in lifts not exceeding 8 inches in loose thickness. Special care should be exercised to avoid damaging the pipe during compaction of the backfill.

#### **8.1.8. Temporary Excavations**

For temporary excavations, we recommend that the following Occupational Safety and Health Administration (OSHA) soil classifications be used:

<i>Fill</i>	<i>Type C</i>
<i>Scripps Formation or Very Old Paralic Deposits</i>	<i>Type B</i>

Upon making the excavations, the soil classifications and excavation performance should be evaluated in the field by the geotechnical consultant in accordance with the OSHA regulations. Temporary excavations should be constructed in accordance with OSHA recommendations. For trench or other excavations, OSHA requirements regarding personnel safety should be met using appropriate shoring (including trench boxes) or by laying back the slopes to a slope ratio no steeper than 1.5 to 1 (horizontal to vertical) in fill and 1 to 1 (horizontal to vertical) in Scripps Formation or very old paralic deposits (if encountered). Temporary excavations that encounter seepage may be shored or stabilized by placing sandbags or gravel along the base of the seepage zone. Excavations encountering seepage should be evaluated on a case-by-case basis. On-site safety of personnel is the responsibility of the contractor.

### **8.1.9. Temporary Shoring**

If shoring or bracing is required for temporary excavations, the following recommendations may be used. Temporary earth retaining systems will be subjected to lateral loads resulting from earth pressures. Shoring systems for excavations may be designed using the lateral earth pressure parameters presented on Figure 7. These lateral earth pressures should be evaluated by a structural engineer for the design of the shoring systems. These design earth pressures assume that spoils from the excavations, or other surcharge loads, will not be placed above the excavations within a 1 to 1 (horizontal to vertical) plane extending up and back from the base of the excavation. For bracing subjected to surcharge loads, such as soil stockpiles or construction materials/equipment, an additional horizontal uniform pressure of  $0.40q$  may be applied to the full height of the excavation, where “q” is the surcharge pressure.

### **8.1.10. Thrust Blocks**

Thrust restraint for buried pipelines may be achieved by transferring the thrust force to the soil outside the pipe through a thrust block. Thrust blocks may be designed using the magnitude and distribution of passive lateral earth pressures presented on Figure 8. Thrust blocks should be backfilled with granular backfill material and compacted following the recommendations presented in this report.

### **8.1.11. New Slopes**

Unless otherwise recommended by Ninyo & Moore and approved by the regulating agencies, fill and cut slopes should not be steeper than 2 to 1 (horizontal to vertical). We recommend slopes be designed and constructed in accordance with the recommendations presented in this section and on Figure 9.

Compaction of the face of fill slopes should be performed by backrolling at intervals of 4 feet or less in vertical slope height or as dictated by the capability of the available equipment, whichever is less. Fill slopes should be backrolled utilizing a sheepsfoot-type roller. Care should be taken in maintaining the desired moisture conditions and/or reestablishing them, as needed, prior to backrolling. The placement, moisture condition-

ing, and compaction of fill slope materials should be done in accordance with the recommendations presented in the Compacted Fill section of this report.

Site runoff should not be permitted to flow over the tops of slopes. Positive drainage should be established away from the slopes. This may be accomplished by incorporating brow ditches placed at the top of the slopes to divert surface runoff away from the slope face where drainage devices are not otherwise available.

The on-site soils are likely to be susceptible to erosion; therefore, the project plans and specifications should contain design features and construction requirements to mitigate erosion of on-site soils during and after construction. Imported fill materials should be evaluated for suitability by Ninyo & Moore prior to their use in constructing fill slopes.

#### **8.1.12. Drainage**

Roof, pad, and slope drainage should be directed such that runoff water is diverted away from slopes and structures to suitable discharge areas by nonerodible devices (e.g., gutters, downspouts, concrete swales, etc.). Positive drainage adjacent to structures should be established and maintained. Positive drainage may be accomplished by providing drainage away from the foundations of the structure at a gradient of 2 percent or steeper for a distance of 5 feet or more outside the building perimeter, and further maintained by a graded swale leading to an appropriate outlet, in accordance with the recommendations of the project civil engineer and/or landscape architect.

Surface drainage on the site should be provided so that water is not permitted to pond. A gradient of 2 percent or steeper should be maintained over the pad area and drainage patterns should be established to divert and remove water from the site to appropriate outlets.

Care should be taken by the contractor during final grading to preserve any berms, drainage terraces, interceptor swales or other drainage devices of a permanent nature on or adjacent to the property. Drainage patterns established at the time of final grading should be maintained for the life of the project. The property owner and the mainte-

nance personnel should be made aware that altering drainage patterns might be detrimental to slope stability and foundation performance.

## 8.2. Seismic Design Parameters

The proposed improvements should be designed in accordance with the requirements of governing jurisdictions and applicable building codes. Table 2 presents the seismic design parameters for the site in accordance with CBC (2013) guidelines and mapped spectral acceleration parameters (USGS, 2016).

**Table 2 – 2013 California Building Code Seismic Design Criteria**

Seismic Design Factors	Values
Site Class	C
Site Coefficient, $F_a$	1.000
Site Coefficient, $F_v$	1.380
Mapped Short Period Spectral Acceleration, $S_S$	1.097g
Mapped One-Second Period Spectral Acceleration, $S_1$	0.420g
Short Period Spectral Acceleration Adjusted For Site Class, $S_{MS}$	1.097g
One-Second Period Spectral Acceleration Adjusted For Site Class, $S_{M1}$	0.580g
Design Short Period Spectral Acceleration, $S_{DS}$	0.732g
Design One-Second Period Spectral Acceleration, $S_{D1}$	0.387g

## 8.3. Foundations

The proposed building may be supported on shallow, spread, or continuous footings bearing entirely on competent Scripps Formation as described in this report. Foundations should be designed in accordance with structural considerations and the following recommendations. In addition, requirements of the appropriate governing jurisdictions and applicable building codes should be considered in the design of the structures.

### 8.3.1. Shallow Foundations

Shallow, spread, or continuous footings supported entirely on competent Scripps Formation may be designed using an allowable bearing capacity of 4,000 pounds per square foot (psf) based on the embedment depths described below. These allowable

bearing capacities may be increased by one-third when considering loads of short duration such as wind or seismic forces. Shallow, spread, or continuous footings for the building should be deepened extend through the 3 feet of imported select fill materials to bear on competent Scripps Formation. Therefore, building footings are anticipated to be founded a minimum 36 inches below finished building pad subgrade elevation. Continuous footings should have a width of 18 inches and isolated footings should be 24 inches in width. From a geotechnical standpoint, footings should be reinforced with three No. 5 reinforcing bars at the top and bottom. The footing reinforcing should be designed by the project structural engineer.

If required by the topography of the site or due to fill thickness, portions of the building foundations may need to be deepened to bear on the Scripps Formation. As an alternative method to stepping down and deepening the footings, the deepened portions of the foundation excavations more than 36 inches below finished pad subgrade elevation may be backfilled with controlled low-strength material (CLSM) to the bottom elevation of the concrete footing. For this alternative, footings may bear on a controlled low strength material (CLSM) backfill with a compressive strength of 150 pounds per square inch (psi) according to “Greenbook,” Section 201-6 specifications. CLSM backfill should extend down to Scripps Formation.

### **8.3.2. Shallow Foundation Lateral Earth Pressures**

For resistance of footings to lateral loads, we recommend an allowable passive pressure of 350 psf of depth be used with a value of up to 3,500 psf. This value assumes that the ground is horizontal for a distance of 10 feet, or three times the height generating the passive pressure, whichever is greater. We recommend that the upper 1 foot of soil not protected by pavement or a concrete slab be neglected when calculating passive resistance.

For frictional resistance to lateral loads, we recommend a coefficient of friction of 0.35 be used between soil and concrete. The allowable lateral resistance can be taken as the sum of the frictional resistance and passive resistance provided the passive resistance does not exceed one-half of the total allowable resistance. The passive resistance values may be increased by one-third when considering loads of short duration such as wind or seismic forces.

### **8.3.3. Static Settlement**

We estimate that the proposed structures, designed and constructed as recommended herein, will undergo total settlement on the order of 1 inch. Differential settlement on the order of ½ inch over a horizontal span of 40 feet should be expected.

## **8.4. Floor Slabs for Non-Apparatus Bay**

We recommend that conventional, slab-on-grade floors, not subjected to vehicular loading and underlain by very low to low expansive compacted fill or very old parallic deposits, be 5 or more inches in thickness and be reinforced with No. 4 or larger reinforcing bars spaced 18 inches on center each way. The reinforcing bars should be placed near the mid-point of the slabs. As a means to help reduce shrinkage cracks, we recommend that the slabs be provided with expansion joints at intervals of approximately 15 to 20 feet, each way or as recommended by the structural engineer. The slab reinforcement and expansion joint spacing should be designed by the structural engineer.

If moisture sensitive floor coverings are to be used, we recommend that the slab base include a 4-inch-thick capillary break (consisting of either sand, crushed rock, or gravel) overlain by a 10-mil polyethylene (or equivalent) membrane.

## **8.5. Floor Slabs for Apparatus Bay**

We recommend that the fire apparatus bay floor slabs be designed as rigid pavements per Rigid Pavement Design (Section 8.7) of this report. Final design of the apparatus bay slab section should be based on the finish grade soils after completion of grading.

## **8.6. Retaining Walls**

Although specifics are not known at this time, we understand that retaining walls may be constructed as part of the project. Retaining walls may be supported on a continuous footings bearing on Scripps Formation. Retaining wall foundations may be designed in the same manner as the new building foundations.

For the design of a yielding retaining wall that is not restrained against movement by rigid corners or structural connections, lateral pressures are presented on Figure 10. Restrained walls (non-yielding) may be designed for lateral pressures presented on Figure 11. These pressures assume low-expansive backfill and free draining conditions. Import soils should be anticipated for backfill of retaining walls. Measures should be taken to reduce the potential for build-up of moisture behind the retaining walls. Drainage design should include free-draining backfill materials and perforated drains as depicted on Figure 12. Solid outlet pipes should be connected to the perforated drains and then routed to a suitable area for discharge of accumulated water. The portions of retaining walls supporting backfill should be coated with an appropriate waterproofing compound or covered with a similar material to inhibit infiltration of moisture through the walls. It is the responsibility of the project structural engineer and/or the retaining wall contractor to provide specifications for waterproofing materials and methods of application.

## **8.7. Concrete Flatwork**

Exterior concrete flatwork should be 5 inches in thickness and should be reinforced with No. 4 reinforcing bars placed at 24 inches on-center both ways. No vapor retarder is needed for exterior flatwork. To reduce the potential manifestation of distress to exterior concrete flatwork due to movement of the underlying soil, we recommend that such flatwork be installed with crack-control joints at appropriate spacing as designed by the structural engineer. Exterior slabs should be underlain by 4 inches of clean sand. The subgrade soils should be scarified to a depth of 12 inches, moisture conditioned to near the laboratory optimum moisture content, and compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557. Positive drainage should be established and maintained adjacent to flatwork.

## **8.8. Corrosion**

Laboratory testing was performed on a representative sample of the on-site earth materials to evaluate pH and electrical resistivity, as well as chloride and sulfate contents. The pH and electrical resistivity tests were performed in accordance with California Test (CT) 643 and the sulfate and chloride content tests were performed in accordance with CT 417 and CT 422, respectively. These laboratory test results are presented in Appendix B.

The results of the corrosivity testing indicated an electrical resistivity of 1300 ohm-cm, a soil pH of 7.1, a chloride content of 165 ppm and a sulfate content of 0.003 percent (i.e., 30 ppm). Previous experience and testing of similar soils in the vicinity indicated electrical resistivities less than 1,000 ohm-cm, chloride contents more than 500 ppm, and sulfate contents more than 0.1 percent (i.e., above 1,000 ppm). Based on the Caltrans corrosion (2003) criteria, ACI 318, and our experience, the on-site soils would be classified as corrosive. Corrosive soils are defined as the soils with electrical resistivities less than 1,000 ohm-cm, more than 500 ppm chlorides, more than 0.1 percent sulfates, or a pH less than 5.5.

## **8.9. Concrete**

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. As stated above, the soil sample tested in this evaluation indicated a water-soluble sulfate content of 0.003 percent by weight (i.e., 30 ppm). Additionally, previous testing of similar soils in the vicinity indicated water-soluble sulfate contents ranging between 0.064 and 0.136 percent. According to the American Concrete Institute (ACI) 318, the potential for sulfate attack is considered moderate for water-soluble sulfate contents between 0.10 and 0.20 percent by weight (i.e., between 1,000 and 2,000 ppm) in soils. Therefore, the site soils are not considered to have a moderate potential for sulfate attack. Accordingly, we recommend that normal weight concrete in contact with soil use Type II/V cement, have a water-cement ratio no higher than 0.50 by weight, and have a 28-day compressive strength of 4,000 pounds per square inch (psi) or more, in accordance with ACI 318.

### 8.10. Flexible Pavement Design

Our laboratory testing indicated the site soils have an R-value of 15. Actual pavement recommendations should be based on R-value tests performed on bulk samples of the soils that are exposed at the finished subgrade elevations across the site at the completion of the grading operations. We understand that traffic will consist primarily of automobiles, light trucks, and fire engines. For design we have assumed Traffic Indices (TI) of 7.0 and 8.0 for site pavements. The preliminary recommended pavement sections are presented in Table 3.

**Table 3 – Recommended Preliminary Pavement Sections**

Traffic Index	R-Value	Asphalt Concrete (in)	Class 2 Aggregate Base (in)
7	15	4½	13
8	15	5½	14

We recommend that the upper 12 inches of the subgrade be compacted to a relative compaction of 95 percent relative density as evaluated by the current version of ASTM D 1557. The aggregate base materials should be compacted to a relative compaction of 95 percent of the modified Proctor density as evaluated ASTM D 1557. The AC materials should be compacted to a relative compaction of 95 percent as evaluated by the materials Hveem density. If traffic indices are different from those assumed, the pavement design should be re-evaluated.

### 8.11. Rigid Pavement Design

In areas of rigid pavement, we recommend that the upper 12 inches of the subgrade be compacted to a relative compaction of 95 percent of the laboratory Proctor density as evaluated by ASTM D 1557. We recommend that in these areas, 8 inches of 600 psi flexural strength Portland cement concrete reinforced with No. 3 bars, 18 inches on-center, be used. We recommend that the geotechnical consultant re-evaluate the pavement design, based on the subgrade material exposed at the time of construction.

### **8.12. Infiltration Devices**

We understand that the project will include bioswales along the southern side of the proposed fire station. As described earlier, based on our experience with similar materials, the Scripps Formation is relatively impermeable. Accordingly, the use of infiltration devices will result in lateral migration of subsurface water and potentially adverse effects to structures and site improvements (i.e., volumetric changes). Therefore, where bioswales are proposed, we recommend that the bottom and sides be lined with an impermeable liner. The bioswales should discharge and be connected to an appropriate outlet by use of a solid pipe.

### **8.13. Pre-Construction Conference**

We recommend that a pre-construction meeting be held prior to commencement of grading. The owner or his representative, the agency representatives, the architect, the civil engineer, Ninyo & Moore, and the contractor should attend to discuss the plans, the project, and the proposed construction schedule.

### **8.14. Plan Review and Construction Observation**

The conclusions and recommendations presented in this report are based on analysis of observed conditions in widely spaced exploratory borings. If conditions are found to vary from those described in this report, Ninyo & Moore should be notified, and additional recommendations will be provided upon request. Ninyo & Moore should review the final project drawings and specifications prior to the commencement of construction. Ninyo & Moore should perform the needed observation and testing services during construction operations.

The recommendations provided in this report are based on the assumption that Ninyo & Moore will provide geotechnical observation and testing services during construction. In the event that it is decided not to utilize the services of Ninyo & Moore during construction, we request that the selected consultant provide the client with a letter (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the design parameters and recommendations contained in this

report. Construction of proposed improvements should be performed by qualified subcontractors utilizing appropriate techniques and construction materials.

## **9. LIMITATIONS**

The field evaluation, laboratory testing, and geotechnical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

## 10. REFERENCES

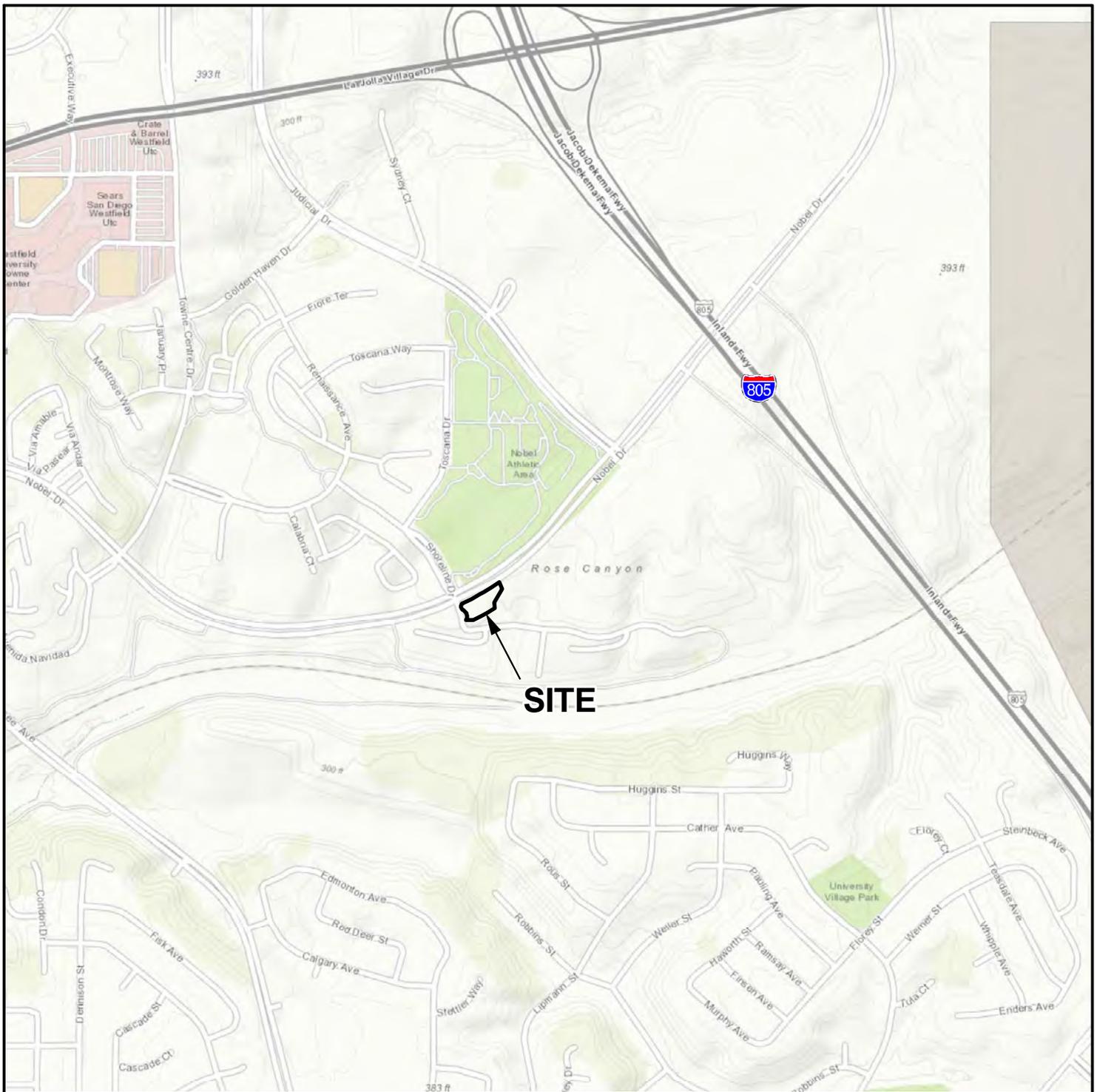
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Scale 1:24,000.

<b>AERIAL PHOTOGRAPHS</b>				
<b>Source</b>	<b>Date</b>	<b>Flight</b>	<b>Numbers</b>	<b>Scale</b>
USDA	March 31, 1953	AXN-4M	85 and 86	1:20,000



**SITE**

SOURCE: USGS, THE NATIONAL MAP, ESRI, 2015

**MAP INDEX**



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE

**Ninyo & Moore**

**SITE LOCATION**

FIGURE

PROJECT NO.

DATE

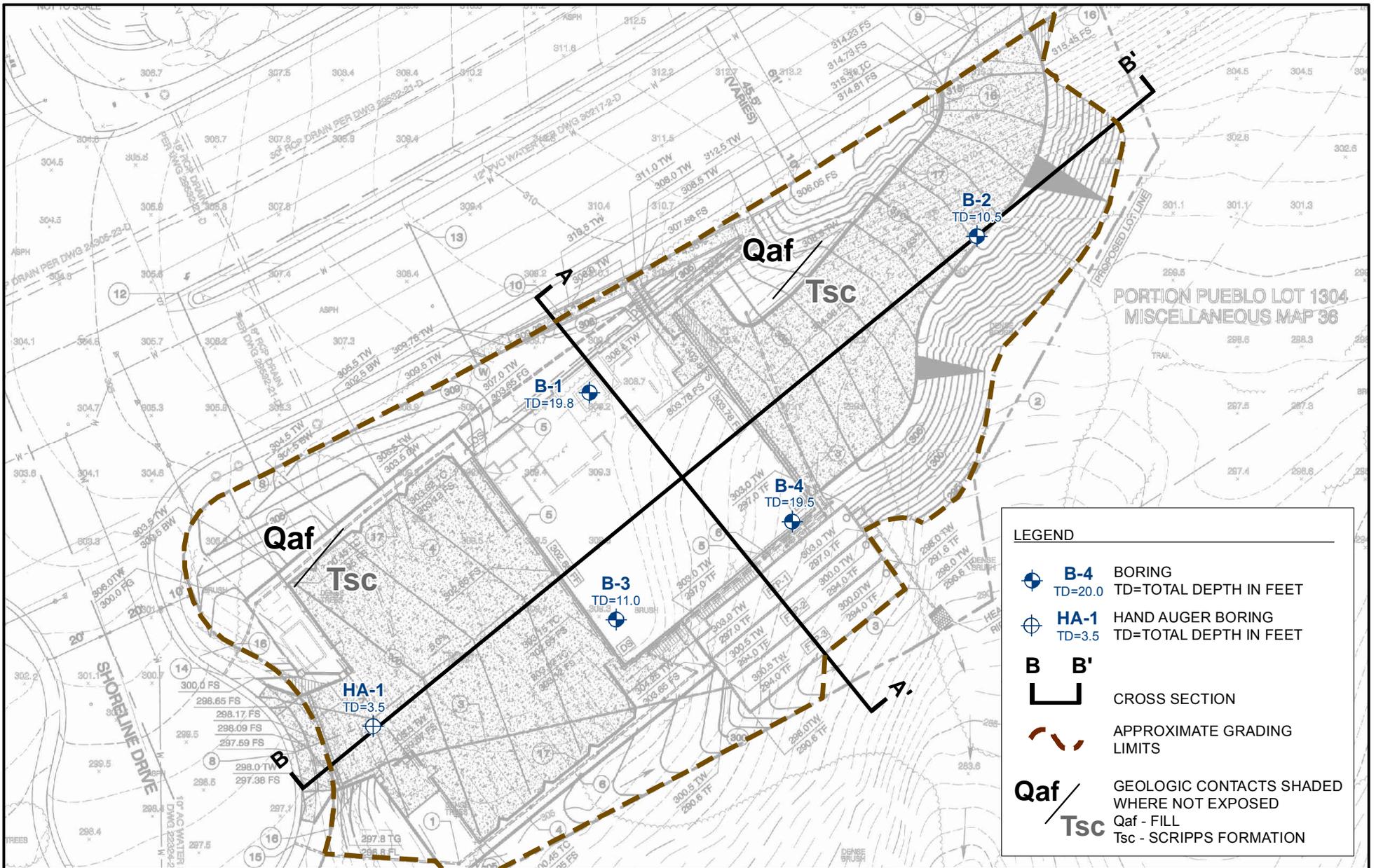
PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

**1**

107954001

8/16

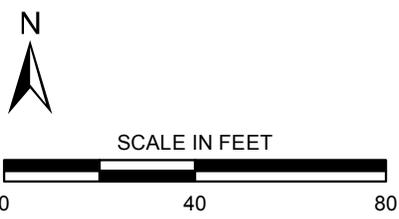
435 | Page



**LEGEND**

- B-4** BORING  
TD=20.0 TD=TOTAL DEPTH IN FEET
- HA-1** HAND AUGER BORING  
TD=3.5 TD=TOTAL DEPTH IN FEET
- B B'**  
 CROSS SECTION
- APPROXIMATE GRADING LIMITS
- Qaf / Tsc**  
 GEOLOGIC CONTACTS SHADED WHERE NOT EXPOSED  
Qaf - FILL  
Tsc - SCRIPPS FORMATION

SOURCES: SAFDIE RABINES, UNDATED; GOOGLE EARTH, 2016



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

**Ninyo & Moore**

PROJECT NO.	DATE
107954001	8/16

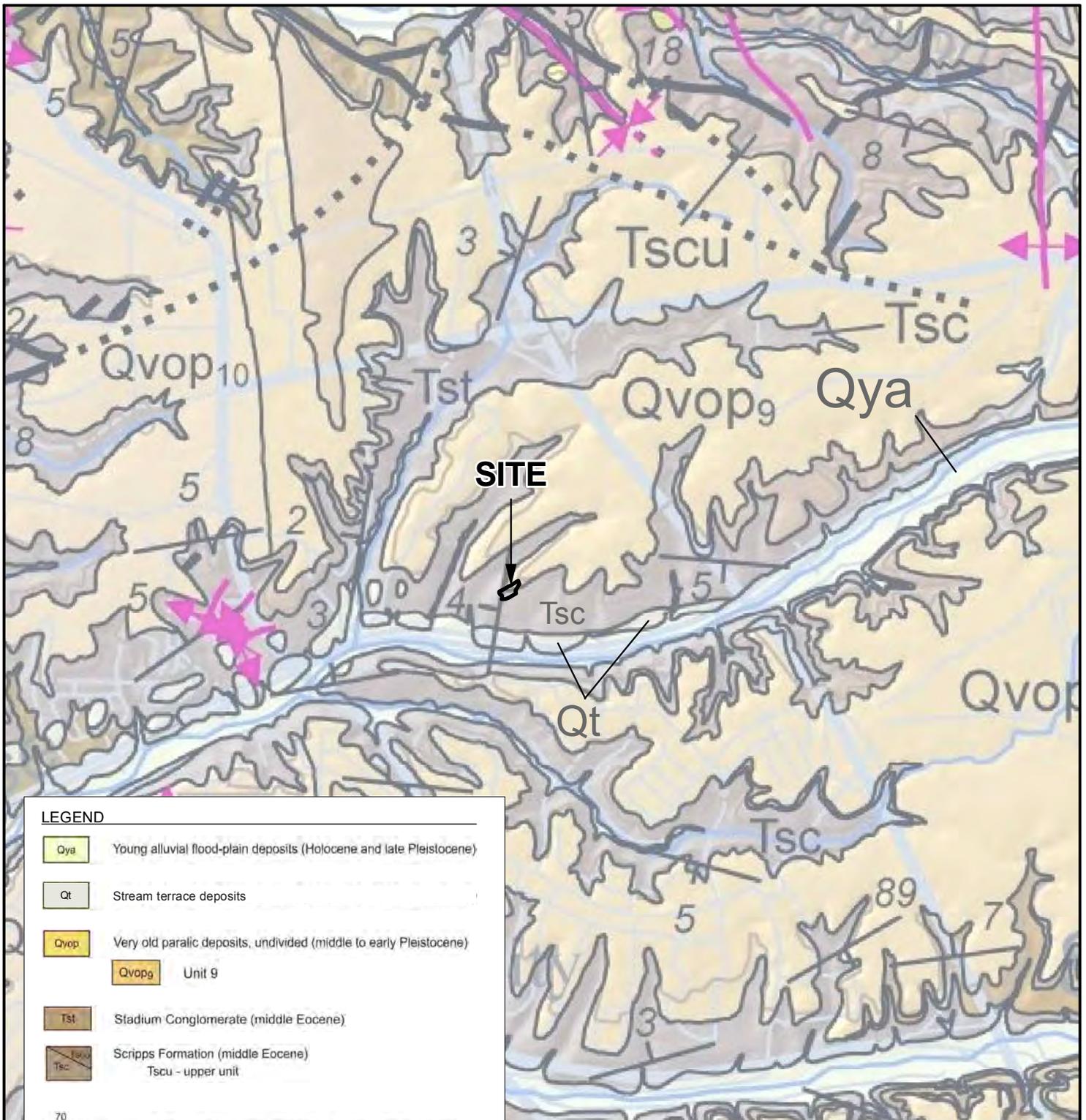
**BORING LOCATIONS**

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

FIGURE

**2**

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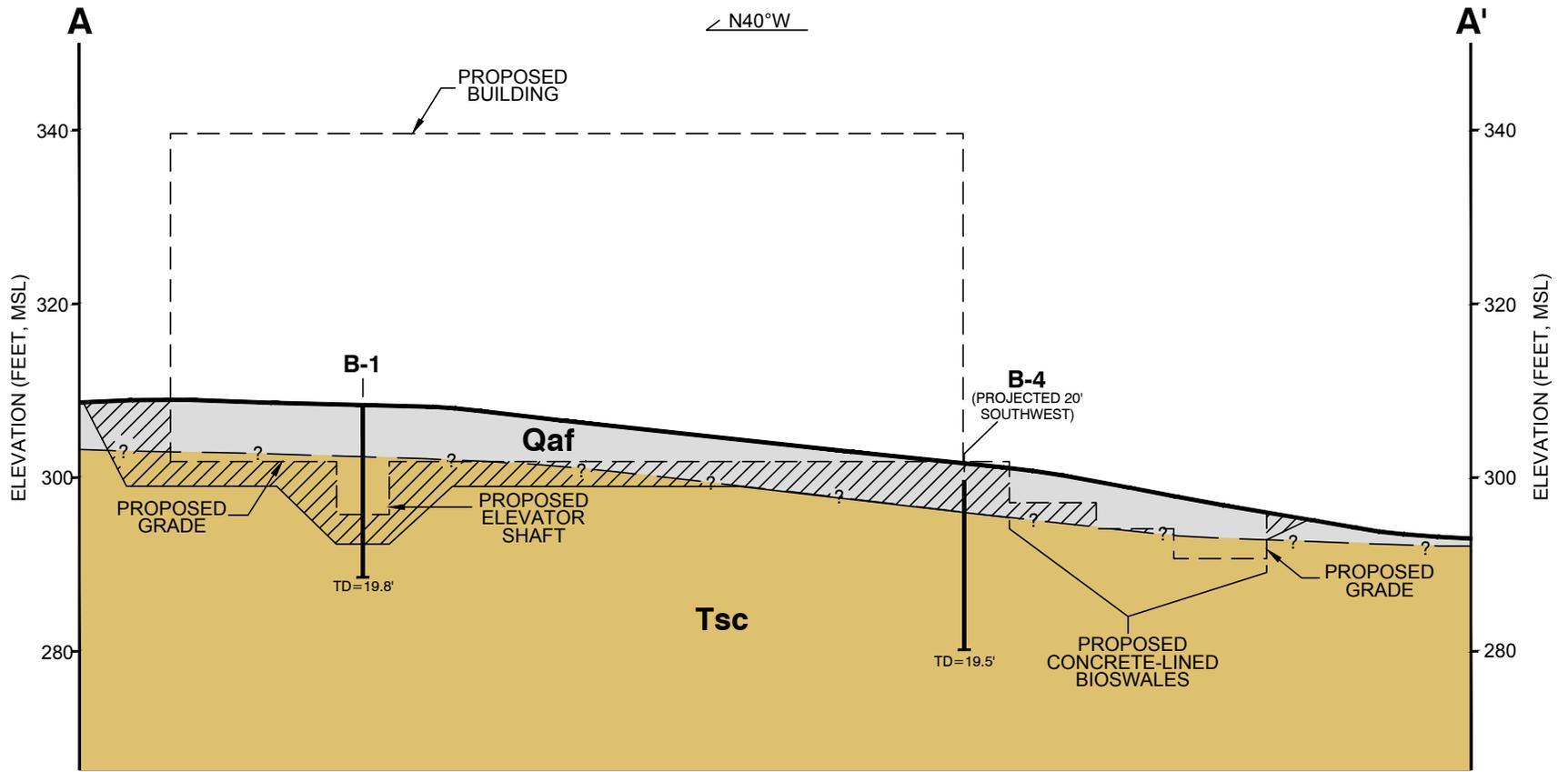
REFERENCE: KENNEDY, M.P. AND TAN, S.S., CALIFORNIA GEOLOGICAL SURVEY, 2008, GEOLOGIC MAP OF THE SAN DIEGO 30' X 60' QUADRANGLE, CALIFORNIA



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

		<b>GEOLOGY</b>		FIGURE  <b>3</b>
107954001                      8/16		PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA		437   Page

3\_107954001\_G.mxd 8/4/2016 JDL



**LEGEND**

- B-4** BORING  
TD=TOTAL DEPTH IN FEET  
TD=19.5'
- Qaf** FILL
- Tsc** SCRIPPS FORMATION
- ? — GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN
- PROPOSED REMEDIAL GRADING

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE

**Ninyo & Moore**

**GEOLOGIC CROSS SECTION A-A'**

FIGURE

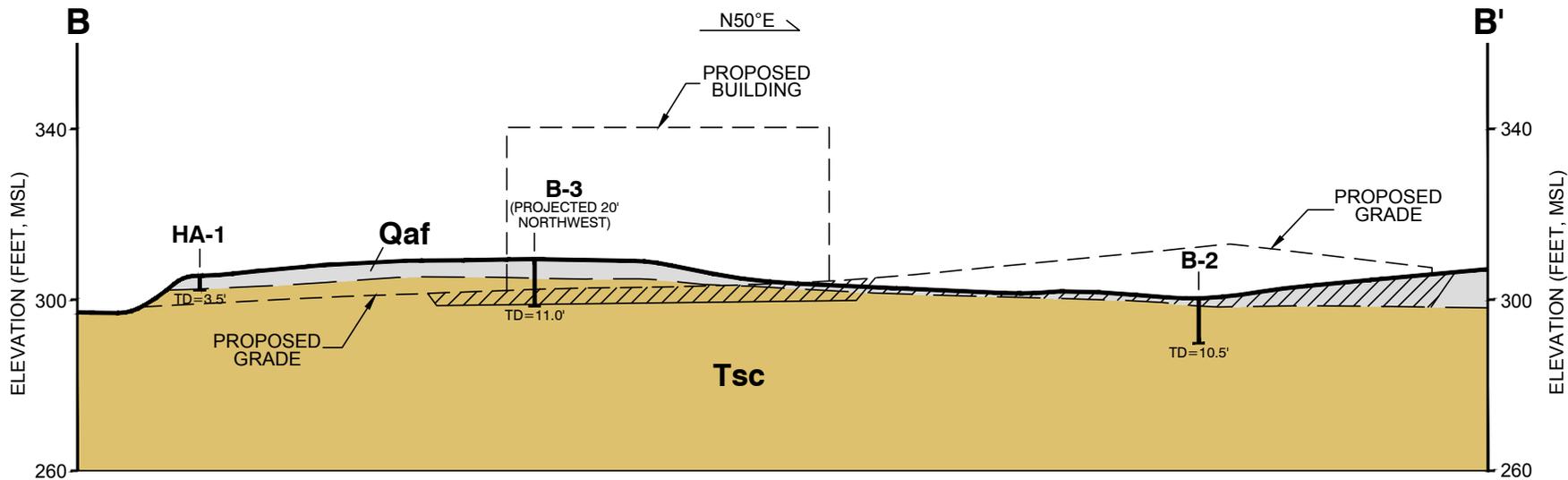


PROJECT NO.	DATE
107954001	8/16

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

**4A**

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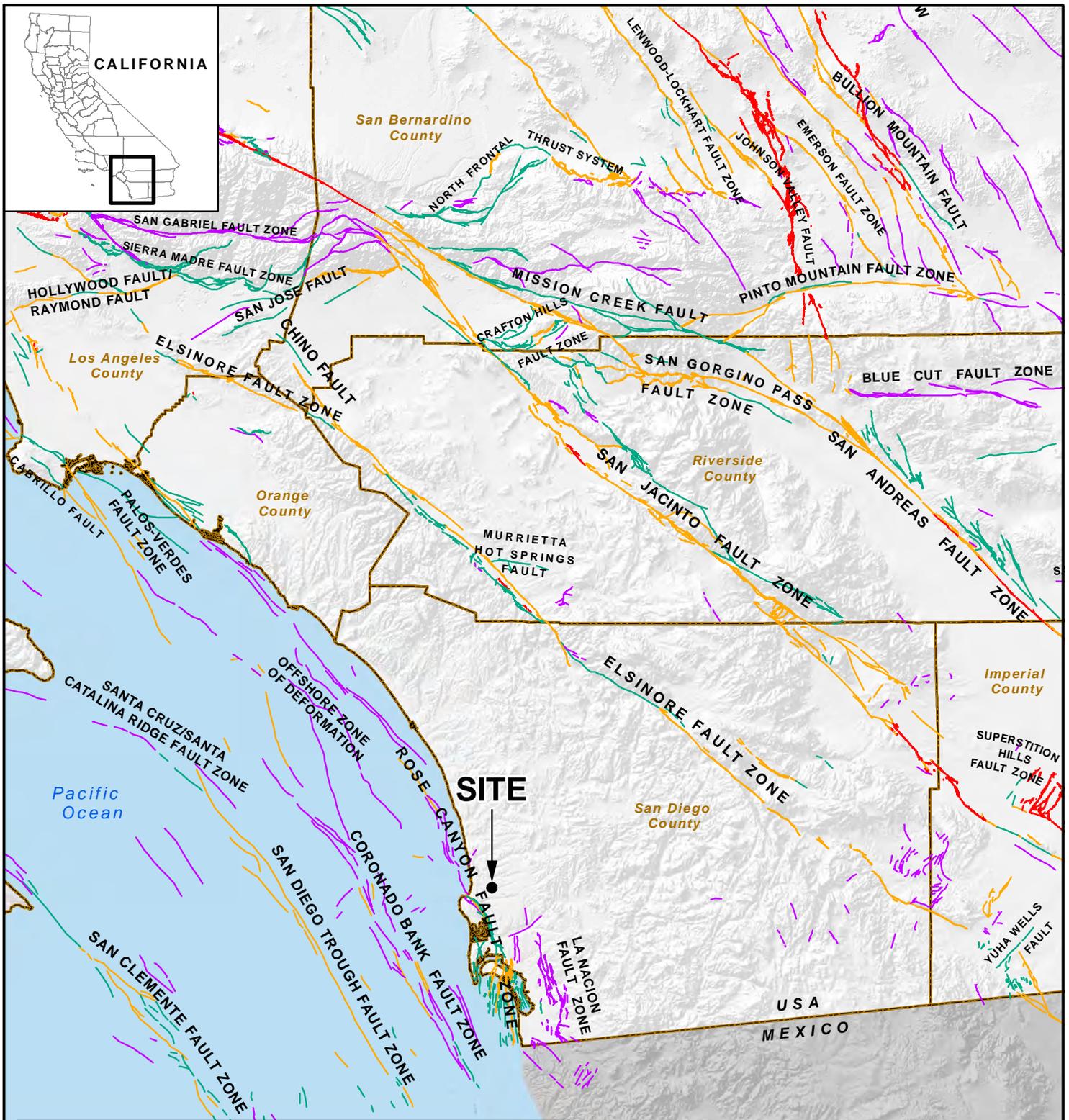
LEGEND	
<b>B-3</b> ↓ TD=11.0'	BORING TD=TOTAL DEPTH IN FEET
<b>HA-1</b> ↓ TD=3.5'	HAND AUGER BORING TD=TOTAL DEPTH IN FEET
<b>Qaf</b>	FILL
<b>Tsc</b>	SCRIPPS FORMATION
— ? —	GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN
	PROPOSED REMEDIAL GRADING

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE



<b>Ninyo &amp; Moore</b>		<b>GEOLOGIC CROSS SECTION B-B'</b>	FIGURE <b>4B</b>
PROJECT NO. 107954001	DATE 8/16		

4b 107954001 cs-b-b'.dwg



**LEGEND**

- CALIFORNIA FAULT ACTIVITY**
- HISTORICALLY ACTIVE
  - HOLOCENE ACTIVE
  - LATE QUATERNARY (POTENTIALLY ACTIVE)
  - QUATERNARY (POTENTIALLY ACTIVE)
  - STATE/COUNTY BOUNDARY

SOURCES: U.S. GEOLOGICAL SURVEY AND CALIFORNIA GEOLOGICAL SURVEY, 2006. QUATERNARY FAULT AND FOLD DATABASE FOR THE UNITED STATES. ACCESSED 2011. FROM USGS WEB SITE: [HTTP://EARTHQUAKES.USGS.GOV/REGIONAL/QFAULTS/](http://earthquakes.usgs.gov/regional/qfaults/).



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.



**FAULT LOCATIONS**

FIGURE

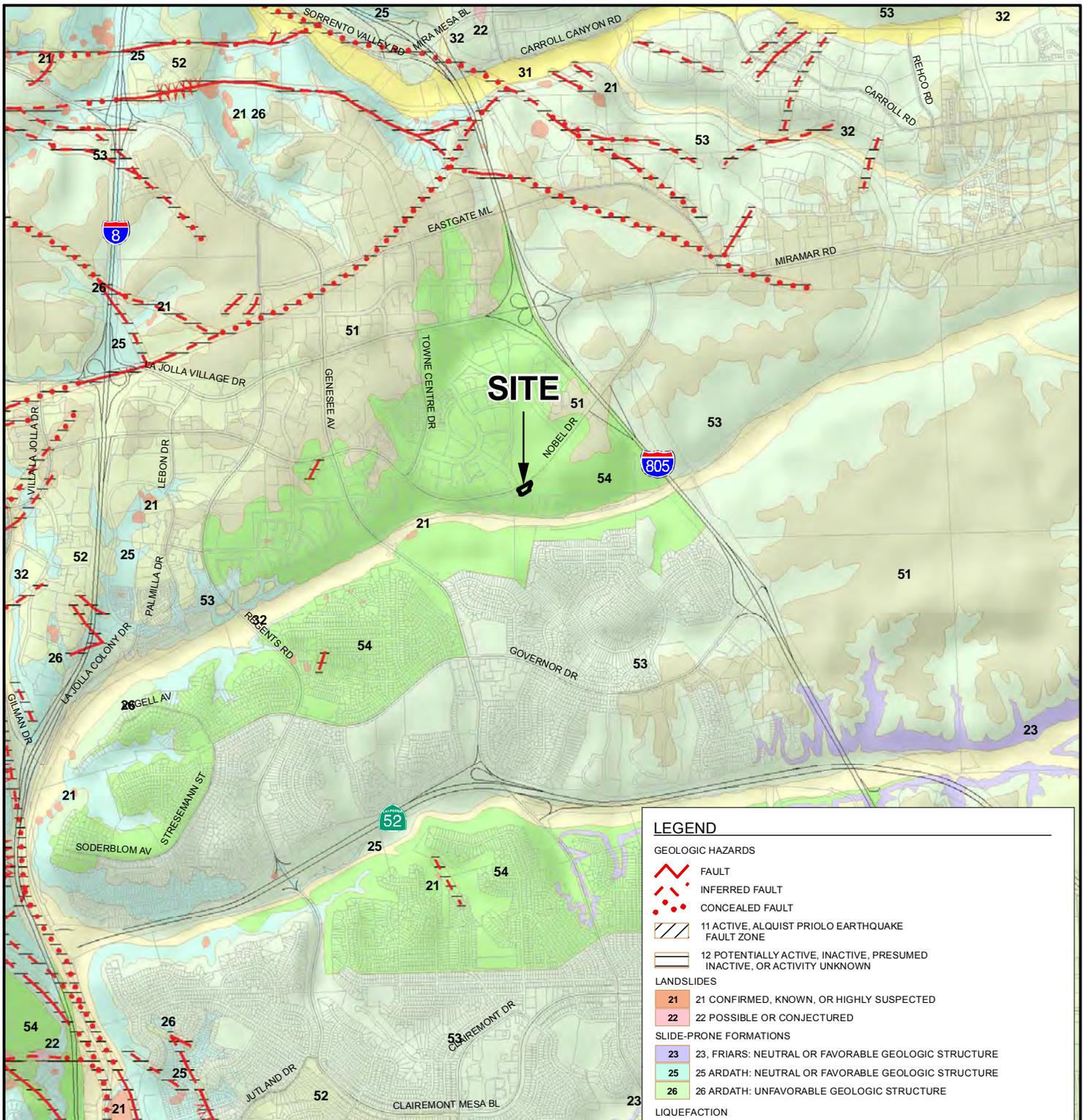
PROJECT NO. DATE

107954001 8/16

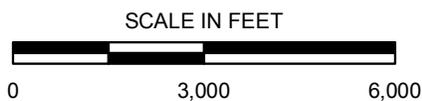
PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

**5**

440 | Page



SOURCE: SANGIS, 2008, CITY OF SAN DIEGO SEISMIC SAFETY STUDY GEOLOGIC HAZARDS AND FAULTS.



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND	
<b>GEOLOGIC HAZARDS</b>	
	FAULT
	INFERRED FAULT
	CONCEALED FAULT
	11 ACTIVE, ALQUIST PRIOLO EARTHQUAKE FAULT ZONE
	12 POTENTIALLY ACTIVE, INACTIVE, PRESUMED INACTIVE, OR ACTIVITY UNKNOWN
<b>LANDSLIDES</b>	
	21 CONFIRMED, KNOWN, OR HIGHLY SUSPECTED
	22 POSSIBLE OR CONJECTURED
<b>SLIDE-PRONE FORMATIONS</b>	
	23 FRIARS: NEUTRAL OR FAVORABLE GEOLOGIC STRUCTURE
	25 ARDATH: NEUTRAL OR FAVORABLE GEOLOGIC STRUCTURE
	26 ARDATH: UNFAVORABLE GEOLOGIC STRUCTURE
<b>LIQUEFACTION</b>	
	31 HIGH POTENTIAL -- SHALLOW GROUNDWATER MAJOR DRAINAGES, HYDRAULIC FILLS
	32 LOW POTENTIAL -- FLUCTUATING GROUNDWATER MINOR DRAINAGES
<b>OTHER TERRAIN</b>	
	51 LEVEL MESAS -- UNDERLAIN BY TERRACE DEPOSITS AND BEDROCK NOMINAL RISK
	52 OTHER LEVEL AREAS, GENTLY SLOPING TO STEEP TERRAIN, FAVORABLE GEOLOGIC STRUCTURE, LOW RISK
	53 LEVEL OR SLOPING TERRAIN, UNFAVORABLE GEOLOGIC STRUCTURE, LOW TO MODERATE RISK
	54 STEEPLY SLOPING TERRAIN, UNFAVORABLE OR FAULT CONTROLLED GEOLOGIC STRUCTURE, MODERATE RISK

**Ninyo & Moore**

**GEOLOGIC HAZARDS**

FIGURE

PROJECT NO.

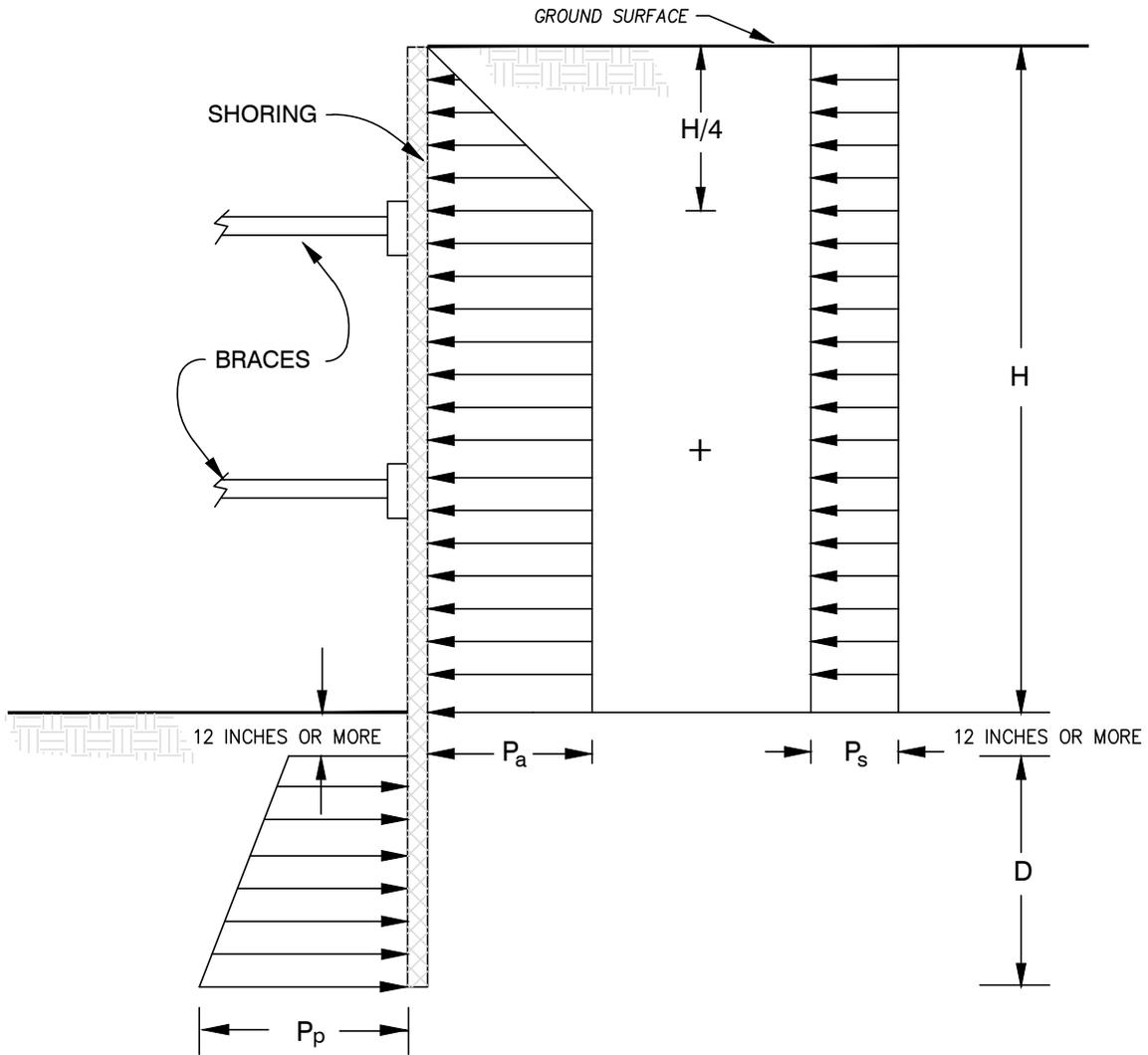
DATE

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

107954001

8/16

**6**



NOTES:

1. APPARENT LATERAL EARTH PRESSURE,  $P_a$   
 $P_a = 48 H$  psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE,  $P_s$   
 $P_s = 120$  psf
3. PASSIVE LATERAL EARTH PRESSURE,  $P_p$   
 $P_p = 120 D + 560$  psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H AND D ARE IN FEET

NOT TO SCALE



**LATERAL EARTH PRESSURES FOR BRACED EXCAVATION (SOFT TO FIRM CLAY)**

FIGURE

PROJECT NO.

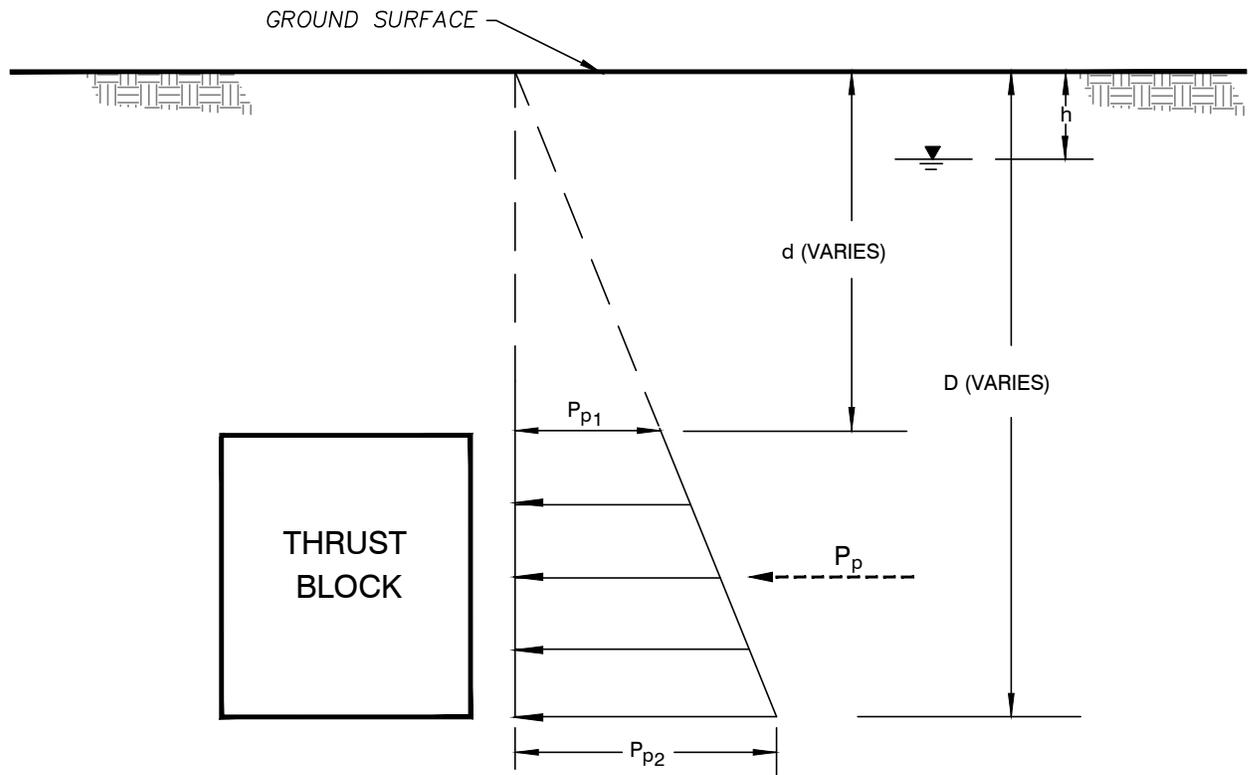
DATE

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

**7**

107954001

8/16



NOTES:

1. GROUNDWATER BELOW BLOCK  
 $P_p = 165 (D^2 - d^2) \text{ lb/ft}$
2. GROUNDWATER ABOVE BLOCK  
 $P_p = 1.4 (D - d) [124.8h + 57.6 (D + d)] \text{ lb/ft}$
3. ASSUMES BACKFILL IS GRANULAR MATERIAL
4. ASSUMES THRUST BLOCK IS ADJACENT TO COMPETENT MATERIAL
5. D, d AND h ARE IN FEET
6.  GROUNDWATER TABLE

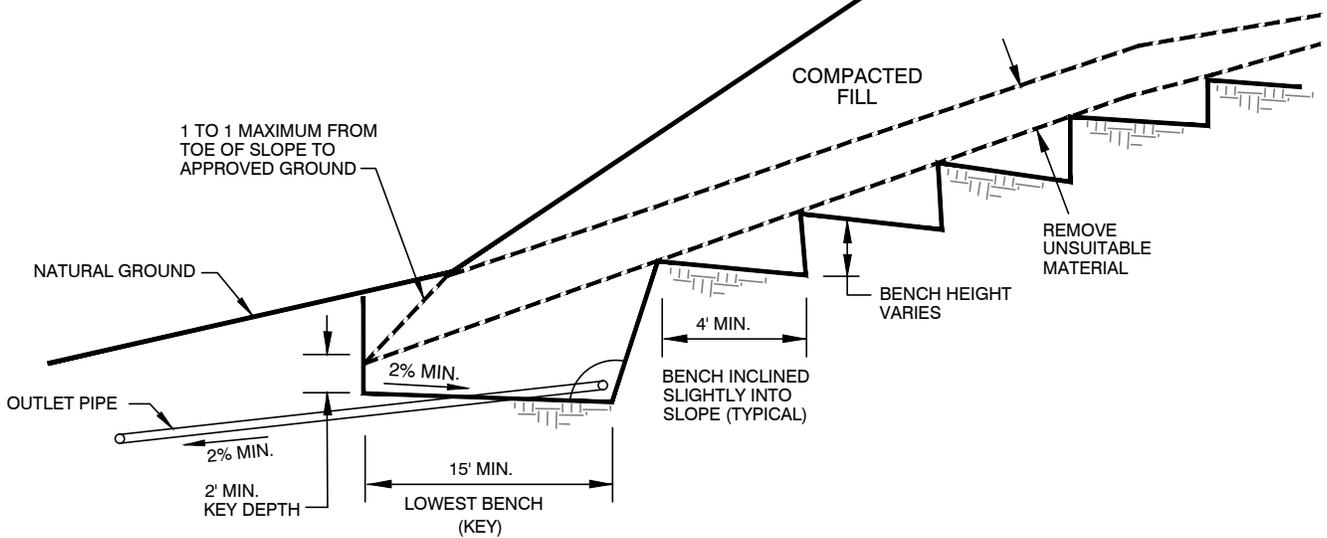
NOT TO SCALE

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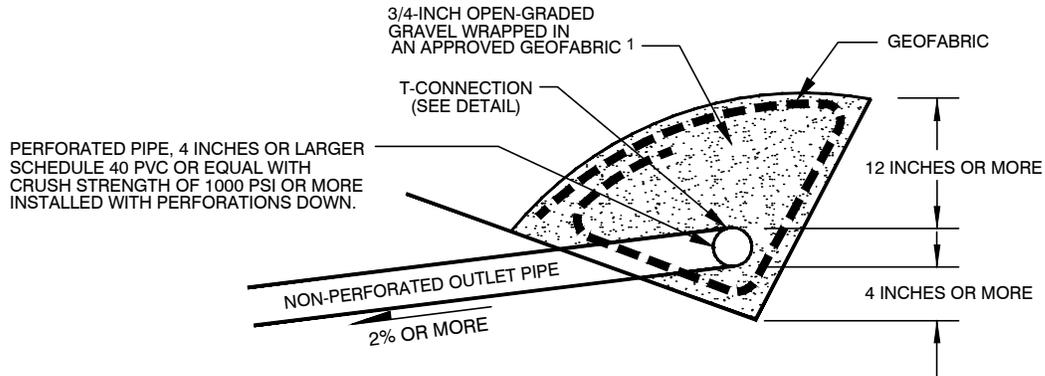
		<b>THRUST BLOCK LATERAL EARTH PRESSURE DIAGRAM</b>	FIGURE
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	
107954001	8/16		

### FILL SLOPE

PROJECTED PLANE



### SUBDRAIN DETAIL



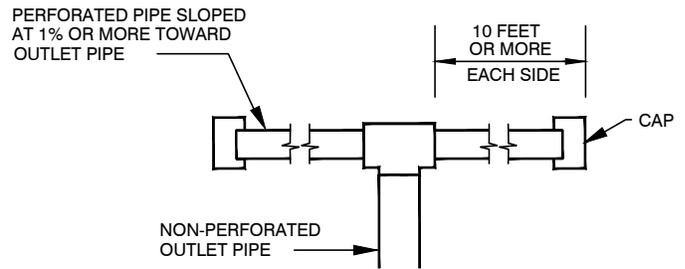
### FILTER MATERIAL

FILTER MATERIAL SHALL BE CLASS II PERMEABLE MATERIAL PER STATE OF CALIFORNIA STANDARD SPECIFICATION OR APPROVED GRAVEL AND FILTER FABRIC WRAP ALTERNATIVE

#### CLASS II GRADATION

SIEVE SIZE	PERCENT PASSING
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15

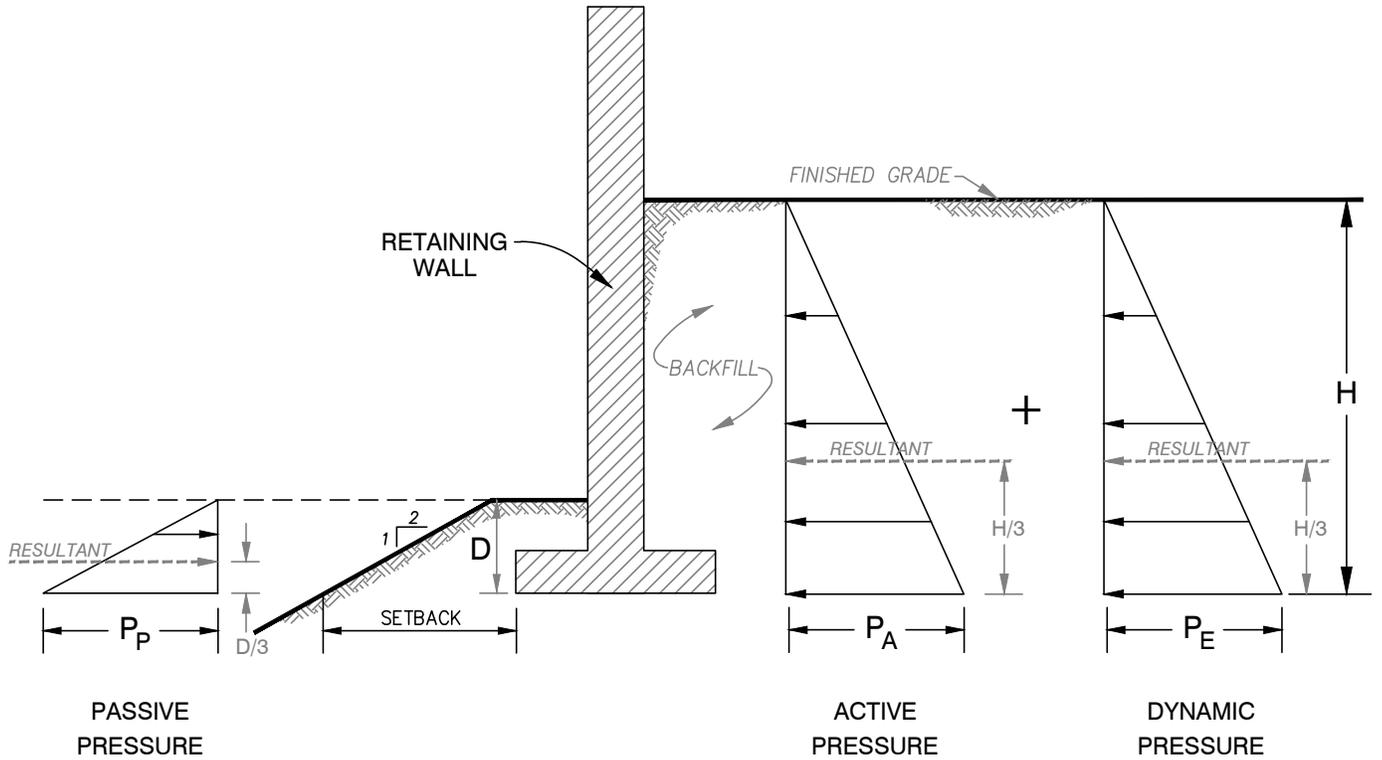
### T-CONNECTION DETAIL



NOTE: <sup>1</sup>AS AN ALTERNATIVE, AN APPROVED GEOCOMPOSITE DRAIN SYSTEM MAY BE USED.

9 107954001 d-kb.dwg

		<b>KEYING AND BENCHING DETAIL</b>	FIGURE  <b>9</b>



**NOTES:**

1. ASSUMES NO HYDROSTATIC PRESSURE BUILD-UP BEHIND THE RETAINING WALL
2. STRUCTURAL, GRANULAR BACKFILL MATERIALS SHOULD BE USED FOR RETAINING WALL BACKFILL
3. DRAINS AS RECOMMENDED IN THE RETAINING WALL DRAINAGE DETAIL SHOULD BE INSTALLED BEHIND THE RETAINING WALL
4. DYNAMIC LATERAL EARTH PRESSURE IS BASED ON A PEAK GROUND ACCELERATION OF 0.44g
5.  $P_E$  IS CALCULATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF MONONOBE AND MATSUO (1929), AND ATIK AND SITAR (2010).
6. SURCHARGE PRESSURES CAUSED BY VEHICLES OR NEARBY STRUCTURES ARE NOT INCLUDED
7. H AND D ARE IN FEET
8. SETBACK SHOULD BE IN ACCORDANCE WITH THE CBC

**RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS**

Lateral Earth Pressure	Equivalent Fluid Pressure (lb/ft <sup>2</sup> /ft) <sup>(1)</sup>	
	$P_A$	Level Backfill with Granular Soils <sup>(2)</sup>
40 H		64 H
$P_E$	20 H	
$P_P$	Level Ground	2H:1V Descending Ground
	360 D	135 D

NOT TO SCALE



**LATERAL EARTH PRESSURES FOR YIELDING RETAINING WALLS**

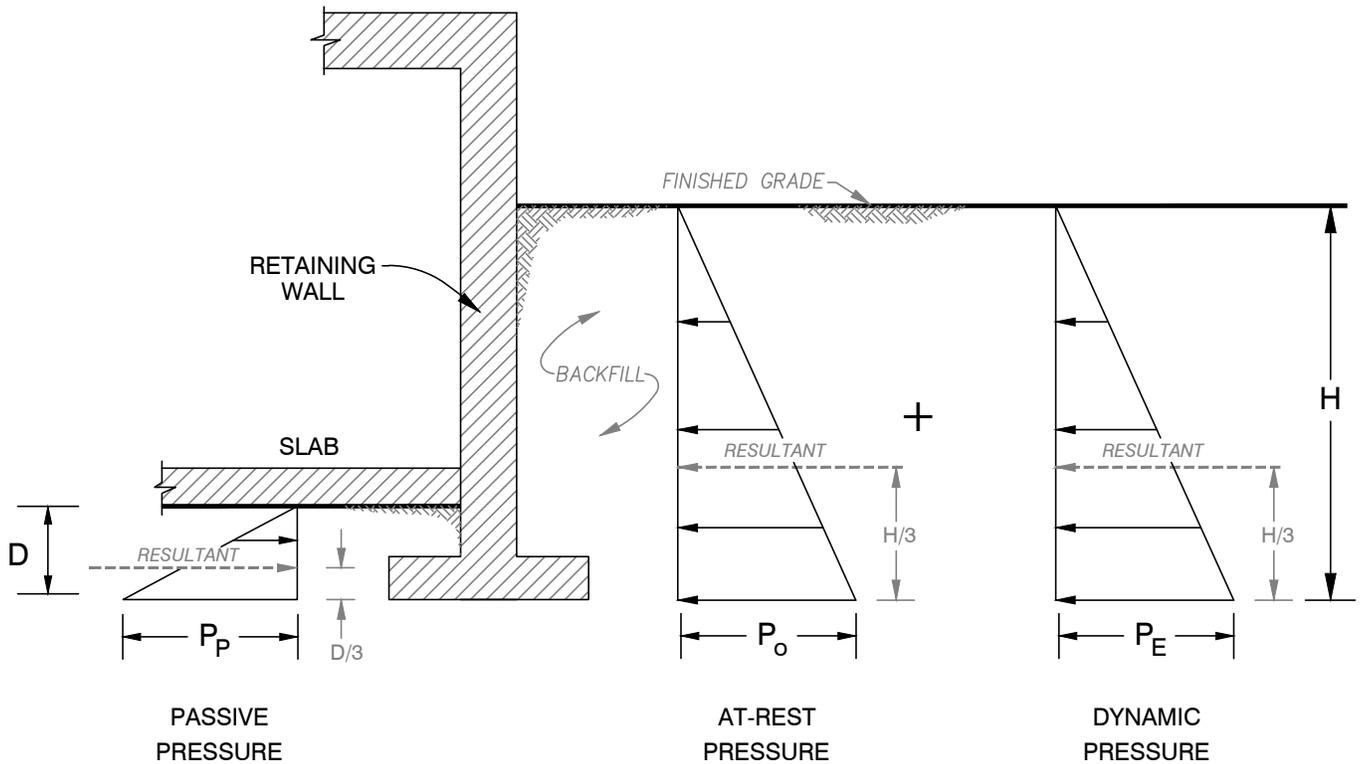
FIGURE

PROJECT NO. 107954001  
DATE 8/16

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

**10**

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NOTES:

1. ASSUMES NO HYDROSTATIC PRESSURE BUILD-UP BEHIND THE RETAINING WALL
2. STRUCTURAL, GRANULAR BACKFILL MATERIALS SHOULD BE USED FOR RETAINING WALL BACKFILL
3. DRAINS AS RECOMMENDED IN THE RETAINING WALL DRAINAGE DETAIL SHOULD BE INSTALLED BEHIND THE RETAINING WALL
4. DYNAMIC LATERAL EARTH PRESSURE IS BASED ON A PEAK GROUND ACCELERATION OF 0.44g
5.  $P_E$  IS CALCULATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF MONONOBE AND MATSUO (1929), AND ATIK AND SITAR (2010).
6. SURCHARGE PRESSURES CAUSED BY VEHICLES OR NEARBY STRUCTURES ARE NOT INCLUDED
7. H AND D ARE IN FEET

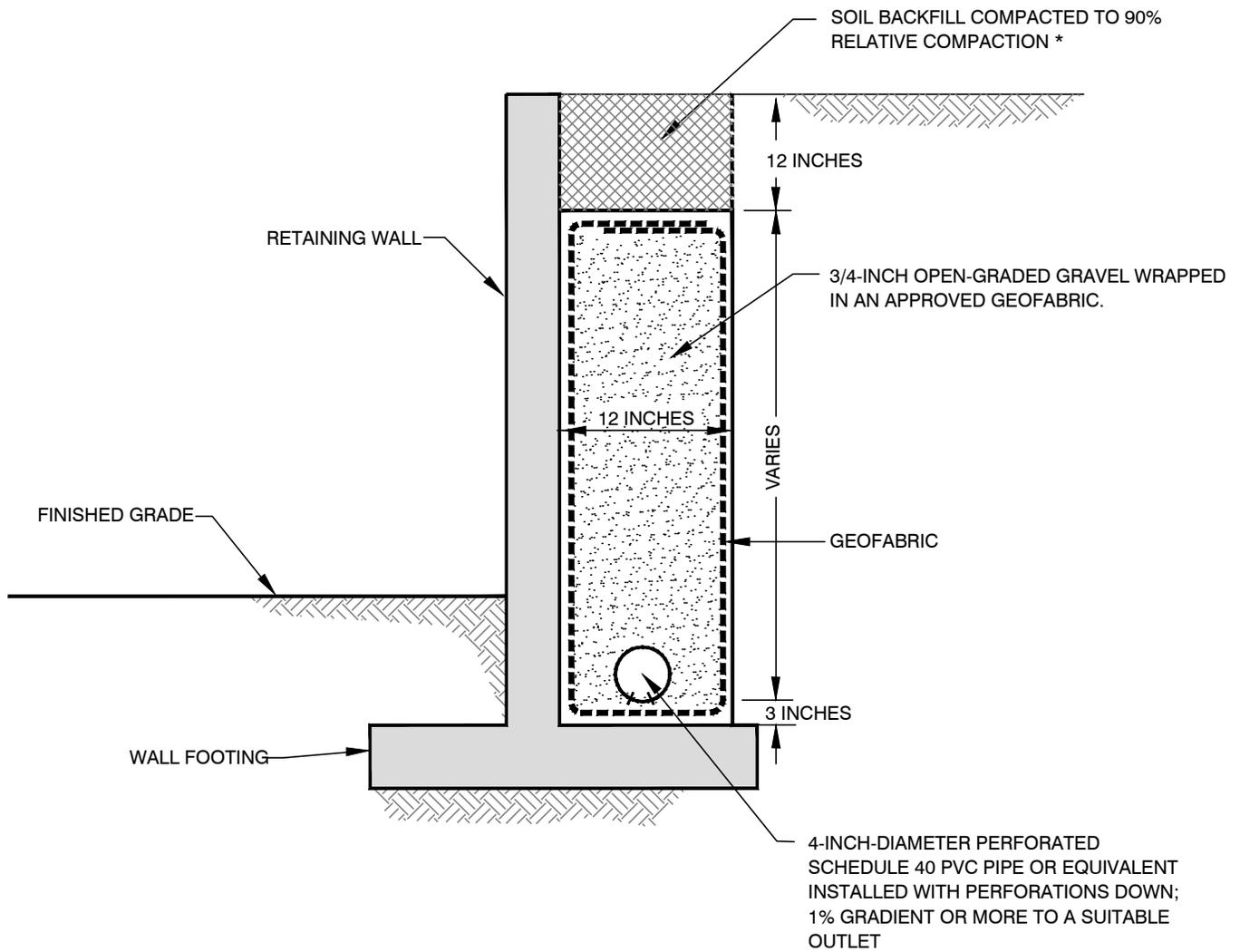
RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS

Lateral Earth Pressure	Equivalent Fluid Pressure (lb/ft <sup>2</sup> /ft) <sup>(1)</sup>	
	$P_O$	Level Backfill with Granular Soils <sup>(2)</sup>
60 H		87 H
$P_E$	20 H	
$P_P$	Level Ground	2H:1V Descending Ground
	360 D	135 D

NOT TO SCALE

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<b>Ninyo &amp; Moore</b>		<b>LATERAL EARTH PRESSURES FOR RESTRAINED RETAINING WALLS</b>	FIGURE
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	<b>11</b>
107954001	8/16		



\*BASED ON ASTM D1557

NOT TO SCALE

NOTE: AS AN ALTERNATIVE, AN APPROVED GEOCOMPOSITE DRAIN SYSTEM MAY BE USED.

12 107954001 d-rw.dwg

<b>Ninyo &amp; Moore</b>		<b>RETAINING WALL DRAINAGE DETAIL</b>	FIGURE
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	<b>12</b>
107954001	8/16		

## **APPENDIX A**

### **BORING LOGS**

#### **Field Procedure for the Collection of Disturbed Samples**

Disturbed soil samples were obtained in the field using the following methods.

##### **Bulk Samples**

Bulk samples of representative earth materials were obtained from the exploratory excavations. The samples were bagged and transported to the laboratory for testing.

##### **The Standard Penetration Test (SPT) Sampler**

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of 1-3/8 inches. The sampler was driven into the ground 12 to 18 inches with a 140-pound hammer free-falling from a height of 30 inches in general accordance with ASTM D 1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the sampler, bagged, sealed and transported to the laboratory for testing.

#### **Field Procedure for the Collection of Relatively Undisturbed Samples**

Relatively undisturbed soil samples were obtained in the field using the following methods.

##### **The Modified Split-Barrel Drive Sampler**

The sampler, with an external diameter of 3.0 inches, was lined with 1-inch long, thin brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a hammer or the Kelly bar of the drill rig in general accordance with ASTM D 3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer or bar, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

# BORING LOG EXPLANATION SHEET

DEPTH (feet)	Bulk Samples Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
0	■						Bulk sample.
	■						Modified split-barrel drive sampler.
	▲						2-inch inner diameter split-barrel drive sampler.
	X						No recovery with modified split-barrel drive sampler, or 2-inch inner diameter split-barrel drive sampler.
	■						Sample retained by others.
5	▲						Standard Penetration Test (SPT).
	X						No recovery with a SPT.
	X	XX/XX					Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
	X						No recovery with Shelby tube sampler.
	X						Continuous Push Sample.
10	○		○				Seepage.
	▲						Groundwater encountered during drilling.
	▲						Groundwater measured after drilling.
					■	SM	<u>MAJOR MATERIAL TYPE (SOIL):</u> Solid line denotes unit change.
					- - -	CL	Dashed line denotes material change.
15					/ / /		Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Shear Bedding Surface
20							The total depth line is a solid line that is drawn at the bottom of the boring.



## BORING LOG

Explanation of Boring Log Symbols

PROJECT NO.

DATE

FIGURE

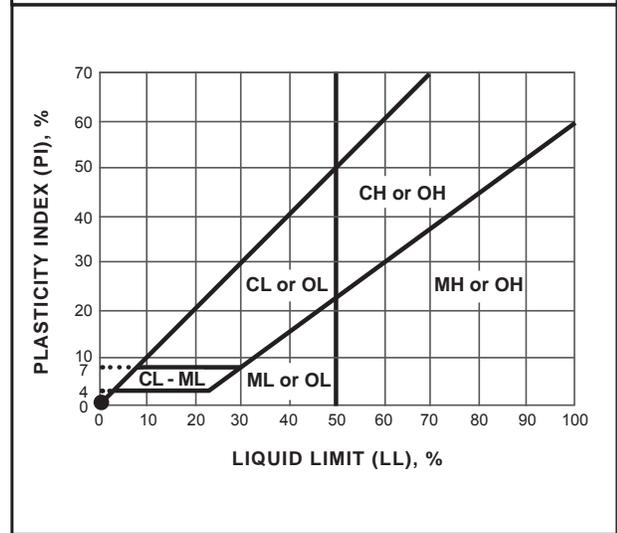
## SOIL CLASSIFICATION CHART PER ASTM D 2488

PRIMARY DIVISIONS		SECONDARY DIVISIONS			
		GROUP SYMBOL	GROUP NAME		
<b>COARSE-GRAINED SOILS</b> more than 50% retained on No. 200 sieve	<b>GRAVEL</b> more than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVEL less than 5% fine	GW	well-graded GRAVEL	
			GP	poorly graded GRAVEL	
		GRAVEL with DUAL CLASSIFICATIONS 5% to 12% fine	GW-GM	well-graded GRAVEL with silt	
			GP-GM	poorly graded GRAVEL with silt	
			GW-GC	well-graded GRAVEL with clay	
			GP-GC	poorly graded GRAVEL with clay	
		GRAVEL with FINES more than 12% fine	GM	silty GRAVEL	
			GC	clayey GRAVEL	
			GC-GM	silty, clayey GRAVEL	
	<b>SAND</b> 50% or more of coarse fraction passes No. 4 sieve	CLEAN SAND less than 5% fine	SW	well-graded SAND	
			SP	poorly graded SAND	
		SAND with DUAL CLASSIFICATIONS 5% to 12% fine	SW-SM	well-graded SAND with silt	
			SP-SM	poorly graded SAND with silt	
			SW-SC	well-graded SAND with clay	
			SP-SC	poorly graded SAND with clay	
		SAND with FINES more than 12% fine	SM	silty SAND	
			SC	clayey SAND	
			SC-SM	silty, clayey SAND	
<b>FINE-GRAINED SOILS</b> 50% or more passes No. 200 sieve	<b>SILT and CLAY</b> liquid limit less than 50%	INORGANIC	CL	lean CLAY	
			ML	SILT	
		CL-ML	silty CLAY		
		ORGANIC	OL (PI > 4)	organic CLAY	
	OL (PI < 4)		organic SILT		
	<b>SILT and CLAY</b> liquid limit 50% or more	INORGANIC	CH	fat CLAY	
			MH	elastic SILT	
		ORGANIC	OH (plots on or above "A"-line)	organic CLAY	
			OH (plots below "A"-line)	organic SILT	
	Highly Organic Soils		PT	Peat	

## GRAIN SIZE

DESCRIPTION	SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders	> 12"	> 12"	Larger than basketball-sized
Cobbles	3 - 12"	3 - 12"	Fist-sized to basketball-sized
Gravel	Coarse	3/4 - 3"	Thumb-sized to fist-size
	Fine	#4 - 3/4"	Pea-sized to thumb-sized
Sand	Coarse	#10 - #4	Rock-salt-sized to pea-sized
	Medium	#40 - #10	Sugar-sized to rock-salt-sized
	Fine	#200 - #40	Flour-sized to sugar-sized
Fines	Passing #200	< 0.0029"	Flour-sized and smaller

## PLASTICITY CHART



### APPARENT DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPOOLING CABLE OR CATHEAD		AUTOMATIC TRIP HAMMER	
	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)
Very Loose	≤ 4	≤ 8	≤ 3	≤ 5
Loose	5 - 10	9 - 21	4 - 7	6 - 14
Medium Dense	11 - 30	22 - 63	8 - 20	15 - 42
Dense	31 - 50	64 - 105	21 - 33	43 - 70
Very Dense	> 50	> 105	> 33	> 70

### CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPOOLING CABLE OR CATHEAD		AUTOMATIC TRIP HAMMER	
	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)
Very Soft	< 2	< 3	< 1	< 2
Soft	2 - 4	3 - 5	1 - 3	2 - 3
Firm	5 - 8	6 - 10	4 - 5	4 - 6
Stiff	9 - 15	11 - 20	6 - 10	7 - 13
Very Stiff	16 - 30	21 - 39	11 - 20	14 - 26
Hard	> 30	> 39	> 20	> 26

# Ninyo & Moore

North University City Fire Station 50 Design - Build  
Exhibit I - Geotechnical Evaluation & Responses

## USCS METHOD OF SOIL CLASSIFICATION

Explanation of USCS Method of Soil Classification

PROJECT NO.	DATE	FIGURE
		450   Page

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>7/19/16</u> BORING NO. <u>B-1</u> GROUND ELEVATION <u>309' ± (MSL)</u> SHEET <u>1</u> OF <u>1</u> METHOD OF DRILLING <u>8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)</u> DRIVE WEIGHT <u>140 lbs. (Auto-Trip)</u> DROP <u>30"</u> SAMPLED BY <u>GLC</u> LOGGED BY <u>GLC</u> REVIEWED BY <u>GTF</u>		
	Bulk	Driven						<b>DESCRIPTION/INTERPRETATION</b>		
0						[Diagonal Hatching]	CL	<b>FILL:</b> Light brown, moist, soft to firm, silty CLAY; some gravel.		
			36			[Diagonal Hatching]		Hard. <b>SCRIPPS FORMATION:</b> Light gray, moist, moderately to strongly cemented, sandy SILTSTONE; iron-oxide staining.		
10			50/5"	15.9	109.9	[Vertical Lines]		Gray; weakly to moderately cemented.		
			84/11"	12.3	100.6	[Vertical Lines]		Light brown; weakly cemented.		
20			88/10"			[Vertical Lines]		Total Depth = 19.8 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.  <u>Note:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.  The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.		
30										
40										



North University City Fire Station 50 Design - Build  
 Exhibit I - Geotechnical Evaluation & Responses

**BORING LOG**

PROPOSED FIRE STATION NO. 50  
 NOBEL DRIVE AND SHORELINE DRIVE, SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
107954001	8/16	B-1

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven						7/19/16	B-2				
								GROUND ELEVATION	SHEET	OF			
								METHOD OF DRILLING	8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)				
								DRIVE WEIGHT	140 lbs. (Auto-Trip)	DROP	30"		
								SAMPLED BY	GLC	LOGGED BY	GLC	REVIEWED BY	GTF
<b>DESCRIPTION/INTERPRETATION</b>													
0							CL	<b>FILL:</b> Light brown, moist, soft to firm, silty CLAY; some cobbles.					
			50/5"	12.9	103.2			<b>SCRIPPS FORMATION:</b> Light gray, moist, moderately indurated, silty CLAYSTONE; iron-oxide staining.					
10			50/6"					Total Depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.					
								<u>Note:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.					
								The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
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North University City Fire Station 50 Design - Build  
Exhibit I - Geotechnical Evaluation & Responses

**BORING LOG**

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE, SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
107954001	8/16	B-2

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven						7/19/16	B-3				
								GROUND ELEVATION	SHEET	OF			
								METHOD OF DRILLING	8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)				
								DRIVE WEIGHT	140 lbs. (Auto-Trip)	DROP	30"		
								SAMPLED BY	GLC	LOGGED BY	GLC	REVIEWED BY	GTF
<b>DESCRIPTION/INTERPRETATION</b>													
0							CL	<b>FILL:</b> Reddish to yellowish brown, moist, soft to firm, sandy CLAY.					
			50/4"					<b>SCRIPPS FORMATION:</b> Light gray, moist, moderately to strongly indurated, clayey SILTSTONE; iron-oxide staining.					
10			50/6"	16.0	103.3			Weakly to moderately indurated; less iron-oxide staining.					
								Total Depth = 11 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.					
								<u>Note:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.					
								The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
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North University City Fire Station 50 Design - Build  
Exhibit I - Geotechnical Evaluation & Responses

**BORING LOG**

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE, SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
107954001	8/16	B-3

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven						7/19/16	B-4				
								GROUND ELEVATION	SHEET	OF			
								METHOD OF DRILLING	8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)				
								DRIVE WEIGHT	140 lbs. (Auto-Trip)	DROP	30"		
								SAMPLED BY	GLC	LOGGED BY	GLC	REVIEWED BY	GTF
								<b>DESCRIPTION/INTERPRETATION</b>					
0							GC	<b>FILL:</b> Light brown, moist, loose to medium dense, clayey GRAVEL; some cobbles.					
			44					<b>SCRIPPS FORMATION:</b> Light brown, moist, moderately to strongly indurated, clayey SILTSTONE.					
10			66					Iron-oxide staining.					
			50/6"					Light gray; weakly to moderately indurated; trace sand.					
			50/6"										
20								Total Depth = 19.5 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.					
								<u>Note:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.					
								The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
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40													



North University City Fire Station 50 Design - Build  
Exhibit I - Geotechnical Evaluation & Responses

**BORING LOG**

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE, SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
107954001	8/16	B-4

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven						7/19/16	HA-1				
								GROUND ELEVATION	SHEET	OF			
								305' ± (MSL)	1	1			
								METHOD OF DRILLING	3" Diameter Hand Auger				
								DRIVE WEIGHT	N/A	DROP	N/A		
								SAMPLED BY	GLC	LOGGED BY	GLC	REVIEWED BY	GTF
<b>DESCRIPTION/INTERPRETATION</b>													
0						CL		<b>FILL:</b> Light brown, moist, soft to firm, silty CLAY; some cobbles.					
						CL		<b>SCRIPPS FORMATION:</b> Light gray, moist, moderately to strongly cemented, clayey SILTSTONE; trace sand; iron-oxide staining. Total Depth = 3.5 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.					
10								<u>Note:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.					
								The ground elevation shown above is an estimation only. It is based on our interpretations of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
20													
30													
40													



North University City Fire Station 50 Design - Build  
Exhibit I - Geotechnical Evaluation & Responses

**BORING LOG**

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE, SAN DIEGO, CALIFORNIA

PROJECT NO.	DATE	FIGURE
107954001	8/16	B-5

## **APPENDIX B**

### **LABORATORY TESTING**

#### **Classification**

Soils were visually and texturally classified in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. Soil classifications are indicated on the logs of the exploratory excavations in Appendix A.

#### **In-Place Moisture and Density Tests**

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory excavations were evaluated in general accordance with ASTM D 2937. The test results are presented on the logs of the exploratory excavations in Appendix A.

#### **Gradation Analysis**

Gradation analysis tests were performed on selected representative soil samples in general accordance with ASTM D 422. The grain-size distribution curves are shown on Figures B-1 and B-2. These test results were utilized in evaluating the soil classifications in accordance with the USCS.

#### **Atterberg Limits**

Tests were performed on selected representative fine-grained soil samples to evaluate the liquid limit, plastic limit, and plasticity index in general accordance with ASTM D 4318. These test results were utilized to evaluate the soil classification in accordance with the USCS. The test results and classifications are shown on Figure B-3.

#### **Direct Shear Tests**

Direct shear tests were performed on relatively undisturbed samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of selected materials. The samples were inundated during shearing to represent adverse field conditions. The results are shown on Figure B-4.

#### **Expansion Index Tests**

The expansion index of selected materials was evaluated in general accordance with Uniform Building Code (UBC) Standard No. 18-2 (ASTM D 4829). Specimens were molded under a specified compactive energy at approximately 50 percent saturation (plus or minus 1 percent). The prepared 1-inch thick by 4-inch diameter specimens were loaded with a surcharge of 144 pounds per square foot and were inundated with tap water. Readings of volumetric swell were made for a period of 24 hours. The results of these tests are presented on Figure B-5.

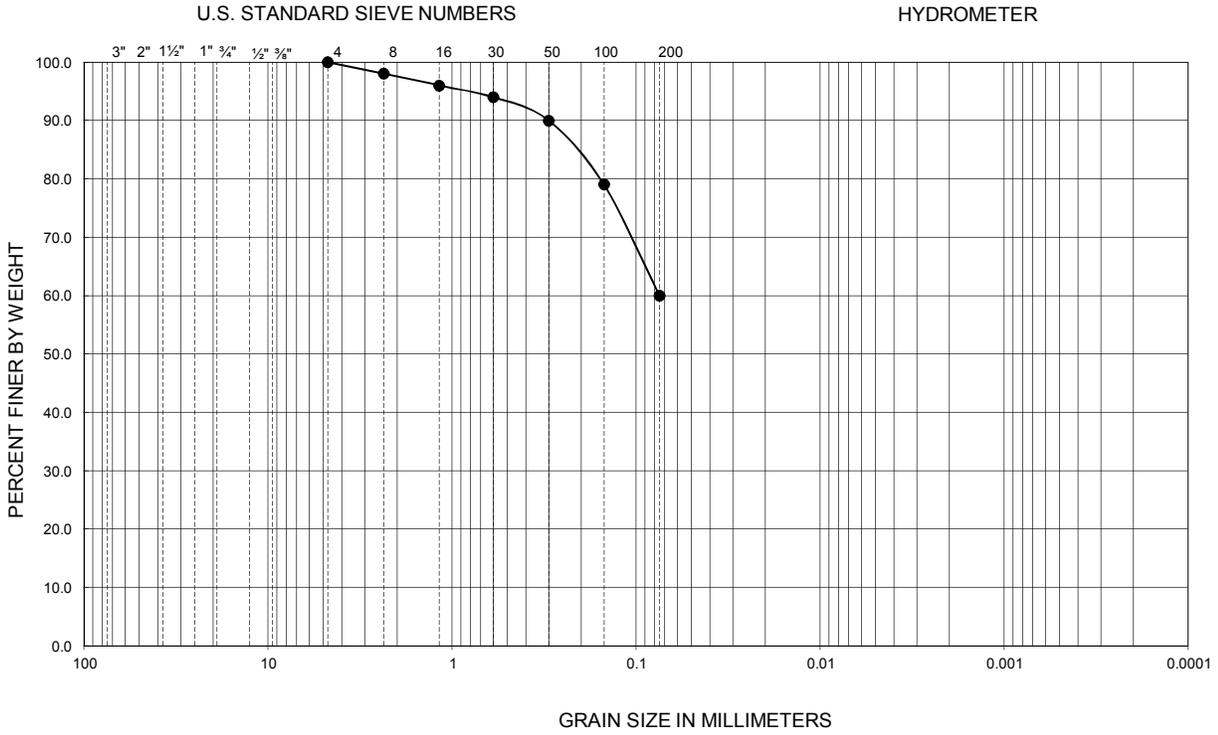
### **Soil Corrosivity Tests**

Soil pH, and resistivity tests were performed on a representative sample in general accordance with CT 643. The soluble sulfate and chloride content of a selected sample were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are presented on Figure B-6.

### **R-Value**

The resistance value, or R-value, for site soils was evaluated in general accordance with CT 301. A sample was prepared and evaluated for exudation pressure and expansion pressure. The equilibrium R-value is reported as the lesser or more conservative of the two calculated results. The test results are shown on Figure B-7.

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

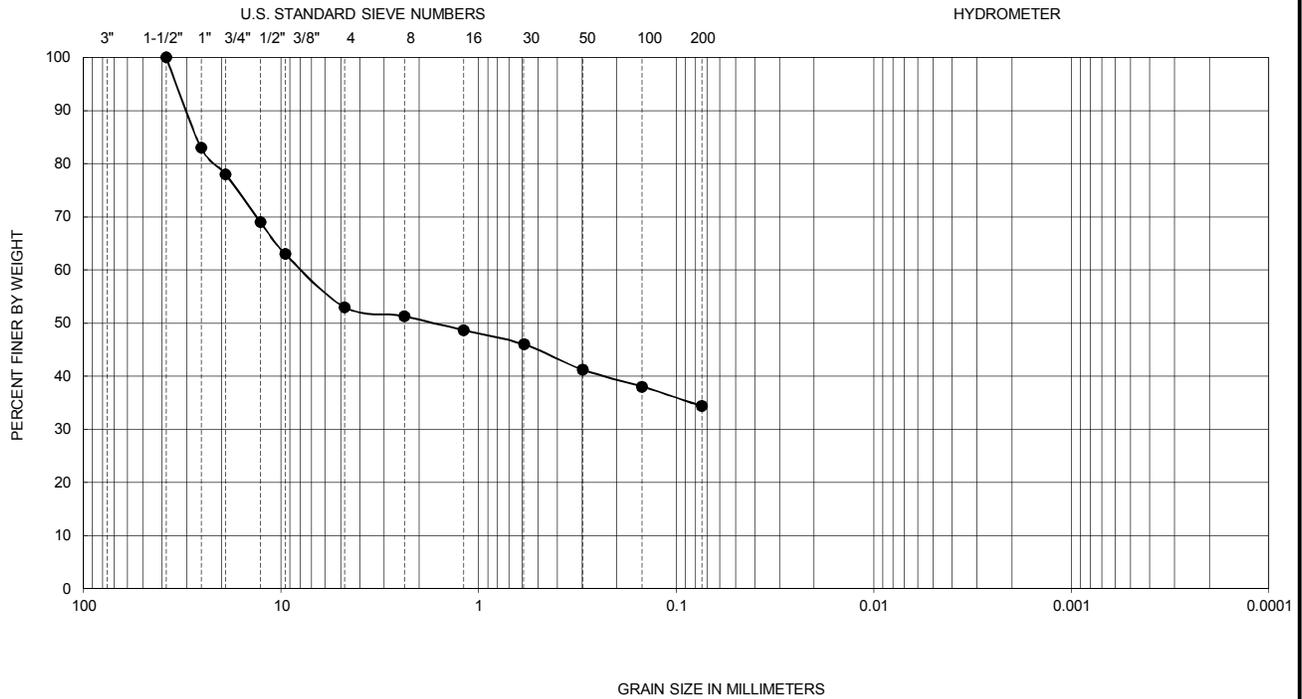


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D <sub>10</sub>	D <sub>30</sub>	D <sub>60</sub>	C <sub>u</sub>	C <sub>c</sub>	Passing No. 200 (%)	USCS
●	B-3	0.0-5.0	35	18	17	--	--	--	--	--	60	CL

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

<b>Ningo &amp; Moore</b>		<b>GRADATION TEST RESULTS</b>		FIGURE
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA		<b>B-1</b>
107954001	8/16			

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay

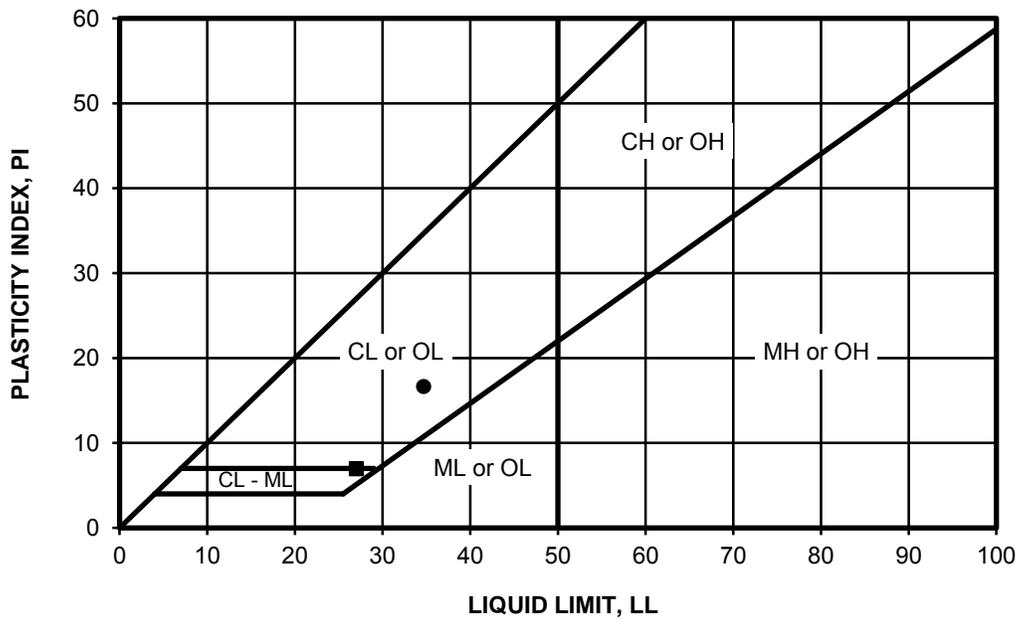


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D <sub>10</sub>	D <sub>30</sub>	D <sub>60</sub>	C <sub>u</sub>	C <sub>c</sub>	Passing No. 200 (%)	USCS
●	B-4	0.0-5.0	27	20	7	--	--	--	--	--	34	GC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

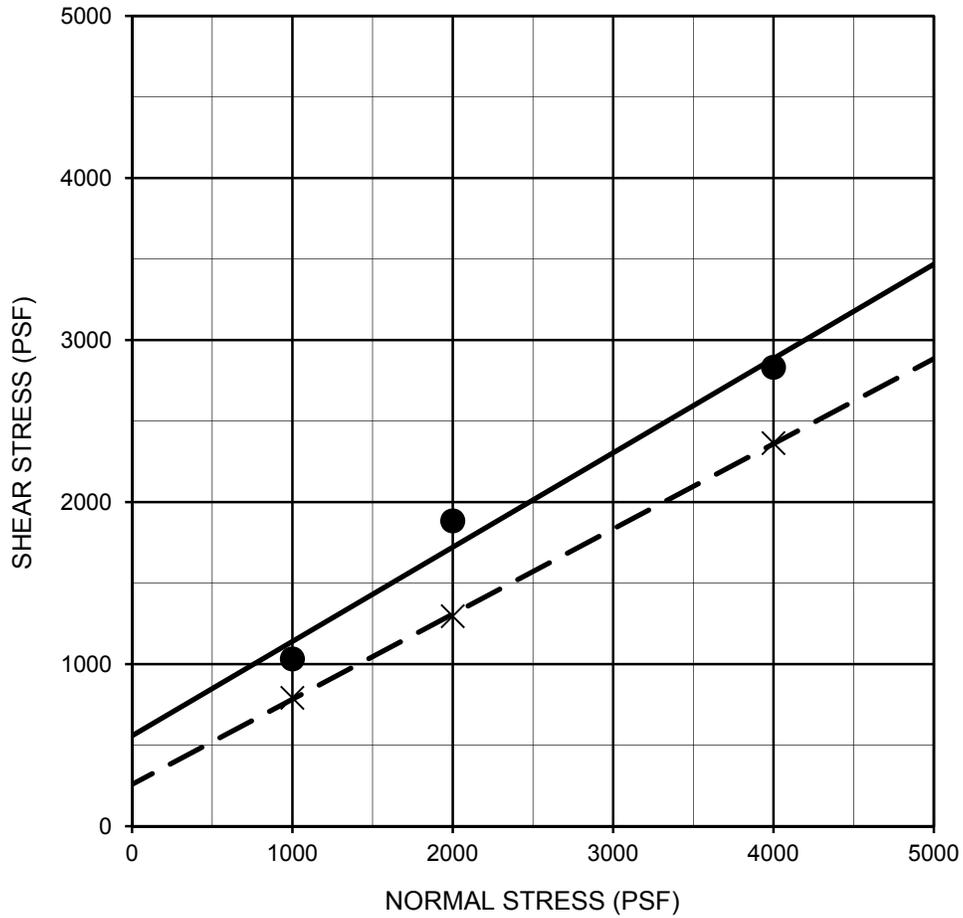
<b>Ninyo &amp; Moore</b>		<b>GRADATION TEST RESULTS</b>		FIGURE <b>B-2</b>
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA		
107954001	8/16			

SYMBOL	LOCATION	DEPTH (FT)	LIQUID LIMIT, LL	PLASTIC LIMIT, PL	PLASTICITY INDEX, PI	USCS CLASSIFICATION (Fraction Finer Than No. 40 Sieve)	USCS (Entire Sample)
●	B-3	0.0-5.0	35	18	17	CL	CL
■	B-4	0.0-5.0	27	20	7	CL-ML	GC



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318

		<b>ATTERBERG LIMITS TEST RESULTS</b>		FIGURE  <b>B-3</b>
PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA				



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, $\phi$ (degrees)	Soil Type
Sandy SILTSTONE	—●—	B-1	10.0-11.5	Peak	560	30	Formation
Sandy SILTSTONE	- - X - -	B-1	10.0-11.5	Ultimate	260	28	Formation

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

<b><i>Ninyo &amp; Moore</i></b>		<b>DIRECT SHEAR TEST RESULTS</b>	FIGURE
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	<b>B-4</b>
107954001	8/16		

SAMPLE LOCATION	SAMPLE DEPTH (FT)	INITIAL MOISTURE (%)	COMPACTED DRY DENSITY (PCF)	FINAL MOISTURE (%)	VOLUMETRIC SWELL (IN)	EXPANSION INDEX	POTENTIAL EXPANSION
B-2	0.0-5.0	12.5	101.2	24.1	0.092	93	High
B-3	0.0-5.0	11.5	103.3	26.3	0.081	80	Medium
B-4	0.0-5.0	10.0	110.1	20.1	0.034	34	Low

PERFORMED IN GENERAL ACCORDANCE WITH  UBC STANDARD 18  ASTM D 4829

<b><i>Ninyo &amp; Moore</i></b>		<b>EXPANSION INDEX TEST RESULTS</b>	FIGURE <b>B-5</b>
PROJECT NO. 107954001	DATE 8/16		
		PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	

SAMPLE LOCATION	SAMPLE DEPTH (FT)	INITIAL MOISTURE (%)	COMPACTED DRY DENSITY (PCF)	FINAL MOISTURE (%)	VOLUMETRIC SWELL (IN)	EXPANSION INDEX	POTENTIAL EXPANSION
B-2	0.0-5.0	12.5	101.2	24.1	0.092	93	High
B-3	0.0-5.0	11.5	103.3	26.3	0.081	80	Medium
B-4	0.0-5.0	10.0	110.1	20.1	0.034	34	Low

PERFORMED IN GENERAL ACCORDANCE WITH  UBC STANDARD 18  ASTM D 4829

<b><i>Ninyo &amp; Moore</i></b>		<b>EXPANSION INDEX TEST RESULTS</b>	FIGURE <b>B-5</b>
PROJECT NO. 107954001	DATE 8/16		
		PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	

SAMPLE LOCATION	SAMPLE DEPTH (FT)	pH <sup>1</sup>	RESISTIVITY <sup>1</sup> (Ohm-cm)	SULFATE CONTENT <sup>2</sup>		CHLORIDE CONTENT <sup>3</sup> (ppm)
				(ppm)	(%)	
B-4	0.0-5.0	7.1	1,300	30	0.003	165

<sup>1</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643

<sup>2</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417

<sup>3</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

<b><i>Ninyo &amp; Moore</i></b>		<b>CORROSIVITY TEST RESULTS</b>	FIGURE <b>B-6</b>
PROJECT NO. 107954001	DATE 8/16		

SAMPLE LOCATION	SAMPLE DEPTH (FT)	SOIL TYPE	R-VALUE
HA-1	0.0-3.0	Sandy SILT (ML)	15

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2844/CT 301

		<b>R-VALUE TEST RESULTS</b>	FIGURE <b>B-7</b>
107954001	8/16		

December 16, 2016  
Project No. 107954001

Mr. Scott Maas  
Safdie Rabines Architects  
925 Fort Stockton Drive  
San Diego, California 92103

Subject: Response to Review Comments Geology Review of Geotechnical Evaluation  
North University Fire Station No. 50  
Nobel Drive and Shoreline Drive  
San Diego, California

Dear Mr. Maas:

In accordance with your request, this letter has been prepared in response to the City of San Diego LDR - Geology comments dated October 4, 2016 regarding our project geologic reconnaissance and geotechnical evaluation reports (Ninyo & Moore, 2015 and 2016, respectively). Specifically, this letter provides responses to review comments 5, 6, and 15 in the City's review (City of San Diego, 2016a) of the project.

***Checklist Item 5 Comment:***

*The project's geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level. (From Cycle 2)*

**Response:**

As stated in Section 7 Conclusions of our referenced geotechnical evaluation report (Ninyo & Moore, 2016), "it is our opinion that construction of the proposed fire station is feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction of the project."

**Checklist Item 6 Comment:**

*According the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 54, indicating potential slope instability. The project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion. (From Cycle 2)*

**Response:**

As discussed in Section 6.2 Landsliding of our referenced geotechnical evaluation report (Ninyo & Moore, 2016) our site reconnaissance and subsurface evaluation found competent Scripps Formation materials that did not exhibit evidence of fractures and/or zones of soft clay associated with shallow landsliding. Additionally, Section 8.1.11 New Slopes presents recommendations for construction of new slopes. Accordingly, it is our opinion that the slopes will be globally and surficially stable provided the recommendations presented in the referenced geotechnical evaluation report (Ninyo & Moore, 2016) are followed.

**Checklist Item 15 Comment:**

*This proposed development is a Priority Development Project (PDP). The project's geotechnical consultant must submit an addendum geotechnical report that provides the information required in the Storm Water Standards, Part 1, BMP Design Manual (<https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf>) and Appendix F of the of the City's Guidelines for Geotechnical Reports. (New Issue)*

**Response:**

This letter has been prepared as an addendum geotechnical report to the referenced reports (Ninyo & Moore, 2015 and 2016). Specifically, this addendum provides additional information and recommendations related to storm water BMPs and infiltration at the site.

Based on discussions and emails with the City of San Diego, we understand that the City accepts the use of NRCS soil survey maps to estimate infiltration rates during preliminary evaluations. The NRCS soil survey maps classify the onsite materials as Soil Group D. According to Table G.1-5 of the City of San Diego Storm Water BMP Design Manual (2016b), Soil Group D has a potential infiltration rate ranging between 0 and 0.02 inches per hour.

Although the potential infiltration rates of the onsite soils may be considered suitable for a partial infiltration site, from a geotechnical standpoint we do not recommend infiltration for this site. As stated in Section 7 Conclusions and Section 8.1.5 Materials for Fill of our referenced geotechnical evaluation report (Ninyo & Moore, 2016) “the onsite fill materials and materials derived from the Scripps Formation are clayey in nature and possess a high potential for expansion.” Additionally, as discussed in Section 8.12 Infiltration Devices of our referenced geotechnical evaluation report (Ninyo & Moore, 2016) the relatively impermeable nature of the fine-grained onsite soils and formation will result in lateral migration of subsurface water. These conditions (i.e., high expansion potential and potential for lateral migration of subsurface water) will result in potentially adverse effects to structures and site improvements (i.e., volumetric changes) and potential instabilities within adjacent slopes. Therefore, our recommendation is to line the bottom and sides of storm water control devices with an impermeable liner.

Based on discussions and emails with the City of San Diego, we understand that use of an impermeable liner is acceptable provided that the basins are designed to meet certain reduction criteria. The project civil engineer is providing calculations to show that the lined system will meet the City requirements.

As required by the City requirements presented in the Storm Water BMP Manual (2016b), we have provided updated responses to Worksheet C.4-1. The updated responses are attached for review and inclusion in the project resubmittal.

We appreciate the opportunity to be of service on this project.

Respectfully submitted,  
**NINYO & MOORE**

  
Gabriel Smith, PE  
Project Engineer



  
Ronald S. Halbert, PE  
Principal Engineer



GS/RSH/gg

Attachments: References  
Attachment A – City of San Diego Review Comments  
Attachment B – Worksheet C.4-1

Distribution: (1) Addressee

## **REFERENCES**

- City of San Diego, Cycle Issues, 2016a, North University Fire Station No. 50, Multi-Discipline Review: dated October 4.
- City of San Diego, 2016b, Storm Water Standards, Part 1: BMP Design Manual for Permanent Site Design, Storm Water Treatment and Hydromodification Management: dated January.
- Ninyo & Moore, 2015, Geologic Reconnaissance, Proposed Fire Station No. 50, Nobel Drive and Shoreline Drive, San Diego, California, Project No. 107954001: dated May 29.
- Ninyo & Moore, 2016, Geotechnical Evaluation, Proposed Fire Station No. 50, Nobel Drive and Shoreline Drive, San Diego, California, Project No. 107954001: dated August 18.

**ATTACHMENT A**  
**CITY OF SAN DIEGO REVIEW COMMENTS**



L64A-003A

## Project Information

**Project Nbr:** 463835      **Title:** N. Univ Fire Station No 50 SDP  
**Project Mgr:** Deisher, Helene      (619) 446-5223      hmdeisher@sandiego.gov



## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Planning Review	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Tracy, Christopher (619) 446-5381 CRTracy@sandiego.gov	<b>Assigned:</b> 08/31/2016	
	<b>Started:</b> 09/12/2016	
<b>Hours of Review:</b> 1.00	<b>Review Due:</b> 09/21/2016	
<b>Next Review Method:</b> Conditions	<b>Completed:</b> 09/20/2016	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 10/03/2016	

- . The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- . We request a 4th complete submittal for LDR-Planning Review on this project as: Conditions.
- . The reviewer has requested more documents be submitted.
- . Last month LDR-Planning Review performed 104 reviews, 74.0% were on-time, and 49.3% were on projects at less than < 3 complete submittals.

### 📁 Cycle 2 - 2/10/16

#### 📁 GENERAL

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	2	GENERAL

This project is not located in the Coastal Overlay Zone and a Coastal Development Permit (CDP) is not required.

Site Development Permit Process CIP 2 (Tentative)  
 As proposed, this project will require a Site Development Permit Process CIP 2 for proximity or impacts to environmentally sensitive lands as described in SDMC Section 143.0110.  
 (From Cycle 2)

- |                                     |   |  |
|-------------------------------------|---|--|
| <input checked="" type="checkbox"/> | 3 | (2 OF 4) Any capital improvement program project (CIP) determined to be in compliance with the Environmentally Sensitive Lands Regulations without deviations will require a Site Development Permit Process CIP 2. See Section 143.0110- Table 143-01A - Applicability of Environmentally Sensitive Lands Regulations. (From Cycle 2)   |
| <input checked="" type="checkbox"/> | 4 | (3 OF 4) In accordance with SDMC Section 126.0502 (f), an application for a Process CIP-Two decision may be initially approved, conditionally approved, or denied by a staff person designated by the City Manager pursuant to Section 111.0205. A public hearing will not be held. However, the project could be appealed to the City Council in accordance with Section 112.0603. (From Cycle 2) |
| <input checked="" type="checkbox"/> | 5 | (4 OF 4) In order for a discussion maker to consider your project for approval, the applicable findings to be made: TBD  |

Not all the reviews have completed their comments to make a final determination if there would be deviations related to a CIP 2 or 5 at this time. Further review is required once this has occurred. (From Cycle 2)

### 📁 Cycle 6 - 6/3/16

#### 📁 GENERAL

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	26	GENERAL

This project is not located in the Coastal Overlay Zone and a Coastal Development Permit (CDP) is not required.

Site Development Permit Process CIP 2 (Tentative)  
 As proposed, this project will require a Site Development Permit Process CIP 2 for proximity or impacts to environmentally sensitive lands as described in SDMC Section 143.0110. (From Cycle 2) (From Cycle 6)

- |                                     |    |   |
|-------------------------------------|----|---|
| <input checked="" type="checkbox"/> | 27 | (2 OF 4) Any capital improvement program project (CIP) determined to be in compliance with the Environmentally Sensitive Lands Regulations without deviations will require a Site Development Permit Process CIP 2. See Section 143.0110- Table 143-01A - Applicability of Environmentally Sensitive Lands Regulations. (From Cycle 2) (From Cycle 6) |
|-------------------------------------|----|---|

For questions regarding the 'LDR-Planning Review' review, please call Christopher Tracy at (619) 446-5381. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	28	(3 OF 4) In accordance with SDMC Section 126.0502 (f), an application for a Process CIP-Two decision may be initially approved, conditionally approved, or denied by a staff person designated by the City Manager pursuant to Section 111.0205. A public hearing will not be held. However, the project could be appealed to the City Council in accordance with Section 112.0603. (From Cycle 2) (From Cycle 6)
<input checked="" type="checkbox"/>	29	(4 OF 4) In order for a discussion maker to consider your project for approval, the applicable findings to be made:  Please refer to 126.0504 "Findings for Site Development Permit Approval" and provide draft findings inclusive of applicable supplemental findings.  Not all the reviews have completed their comments to make a final determination if there would be deviations related to a CIP 2 or 5 at this time. However, it appears highly likely there would be no deviations that would render a CIP 5 for the proposal. (From Cycle 2) (From Cycle 6)

For questions regarding the 'LDR-Planning Review' review, please call Christopher Tracy at (619) 446-5381. Project Nbr: 463835 / Cycle: 7





L64A-003A

Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Environmental	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Tracy, Christopher (619) 446-5381 CRTracy@sandiego.gov	<b>Assigned:</b> 09/01/2016	
	<b>Started:</b> 09/12/2016	
<b>Hours of Review:</b> 7.00	<b>Review Due:</b> 10/03/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/30/2016	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 10/03/2016	

- . The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: First Review Issues.
- . We request a 4th complete submittal for LDR-Environmental on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 3 outstanding review issues with LDR-Environmental (4 of which are new issues).
- . Last month LDR-Environmental performed 122 reviews, 76.2% were on-time, and 40.7% were on projects at less than < 3 complete submittals.

📁 Cycle 2 - 2/16/2016

📁 NOISE

📁 ON-SITE

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	22	As identified within the 6.3, "For these reasons, on-site noise sources are not anticipated to exceed the daytime noise level limit of 50 db(A) established in the Noise Ordinance." Please identify what section of the noise ordinance that is being referenced. (From Cycle 2)

📁 Cycle 6 - 6/3/2016

📁 NOISE

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	30	PROJECT DESCRIPTION - The project was modified from .91 to .96 acres in size to accommodate a drainage structure located at the southern portion of the site.  Please update all discussion points throughout the report that reference this item and update accordingly. Please update any models based on this design change.  Please update Figures 2 through 6 to reflect this new site delineation. (From Cycle 6)
<input checked="" type="checkbox"/>	31	CONSTRUCTION NOISE - Section 5.4, With the boundary adjustment, please update the construction noise model as it relates to the new southern boundary of the site. (From Cycle 6)
<input checked="" type="checkbox"/>	32	TRAFFIC NOISE - Please address comment from Cycle 2 (From Cycle 6)
<input checked="" type="checkbox"/>	33	ON-SITE NOISE  Page 28, it appears there may be a typo, "HVAC units would "not" generate noise levels of up to 42 dba at the project site boundary." (From Cycle 6)
<input checked="" type="checkbox"/>	34	As identified within the Executive Summary, Page 2, and Section 6.3, Page 28, "For these reasons, on-site noise sources are not anticipated to exceed the daytime noise level limit of 50 db(A) established in the Noise Ordinance." Please identify what section of the noise ordinance that is being referenced. Table? (From Cycle 6)
<input checked="" type="checkbox"/>	35	Per phone conversation 5/9/16, it was determined a multi-family threshold would be applied, and the the 47 dba from the SCBA cylinder stations was incorrectly modeled. Please update accordingly. (From Cycle 6)
<input checked="" type="checkbox"/>	36	Please also address nighttime impacts as it is a 24 hour operation. (From Cycle 6)

📁 BIOLOGY

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	39	Biological Report

Page 3 - .91 acre should be referenced as .96 acre (From Cycle 6)

For questions regarding the 'LDR-Environmental' review, please call Christopher Tracy at (619) 446-5381. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	40	Biological Report

Page 27 - ".70 acre within MHPA" should be referenced as .85 acre (From Cycle 6)

## 📁 Cycle 7 - 9/28/2016

### 📁 BIOLOGY

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	56	Page 48 - Biological Resources Report

Please provide draft Mitigation language for all species identified. LDR-Environmental will defer to Plan-MSCP for a final determination. (New Issue)

### 📁 NATIVE GRASSLANDS

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	57	Page 12 - Section 4.0 "Implementation"

Please provide a section that provides proposed mitigation language using standard City protocol. LDR-Environmental will defer to Plan-MSCP for a final determination. (New Issue)

### 📁 OTHER REVIEW DISCIPLINES

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	54	Corrections/uncleared issues are still applicable within this review cycle with respect to LDR-Engineering, Geology, Transportation, and Plan-MSCP with that could still potentially affect the final CEQA determination. As such, EAS is not able to complete the Initial Study for your project and the environmental processing timeline will be held in abeyance. LDR-Environmental will review these issue areas within the next review cycle. (New Issue)

### 📁 CEQA

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	58	Additional information is required before an environmental review can be completed. The issues identified below and in any other discipline review comments must be addressed before an environmental determination can be made on this project. A determination of Negative Declaration (ND), Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR) will be made based on the information provided in any subsequent submittals. (New Issue)





L64A-003A

Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Engineering Review	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Canning, Jack (619) 446-5425 jcanning@sandiego.gov	<b>Assigned:</b> 08/30/2016	
	<b>Started:</b> 09/12/2016	
<b>Hours of Review:</b> 5.00	<b>Review Due:</b> 09/21/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/19/2016	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 10/03/2016	

- . The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- . We request a 4th complete submittal for LDR-Engineering Review on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 14 outstanding review issues with LDR-Engineering Review (12 of which are new issues).
- . Last month LDR-Engineering Review performed 121 reviews, 83.5% were on-time, and 38.5% were on projects at less than < 3 complete submittals.

Engineering 2nd Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	31	Revise the Grading Plan Sheet C1.2. Revise the details for the proposed Biofiltration BMPs. Callout an impermeable liner or uncompacted native soils at the bottom of the facility and the overflow structure system per BMP Design Fact Sheet BF-1 Biofiltration.  (From Cycle 6)

Drainage Study

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	30	Engineering Review has no further comments regarding the Drainage Study at this time.  (From Cycle 6)

SWQMP

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	32	Revise Hydromodification Management Requirements Form I-3B Page 9. Section states the runoff is pumped to C Street and discharges into the San Diego Bay which is not correct. Project is not on C Street and does not discharge into the San Diego Bay. Revise accordingly.  (From Cycle 6)
<input checked="" type="checkbox"/>	33	Submit a BF-1 Biofiltration BMP Design Fact Sheet in accordance with Appendix E.  (From Cycle 6)
<input checked="" type="checkbox"/>	34	Submit a completed Biofiltration Criteria Checklist in accordance with Appendix F.  (From Cycle 6)
<input checked="" type="checkbox"/>	35	Submit a completed Simple Sizing Method for Biofiltration BMPs Worksheet B.5-1 for each DMA and Biofiltration Basin proposed. Add a discussion how the Biofiltration BMPs have been designed to have an appropriate hydraulic loading rate to maximize storm water retention and pollutant removal, as well as to prevent erosion, scour, and channeling within the BMP. Add a discussion the BMPs were sized to treat 1.5 times the DCV not reliably retained onsite.  (From Cycle 6)
<input checked="" type="checkbox"/>	36	Revise the BMP Exhibit to show and call out the DMAs proposed including tributary area for BMP sizing.  (From Cycle 6)
<input checked="" type="checkbox"/>	37	Add a discussion for each Bioretention Area and include the draw down time. Add a discussion that the draw down criteria has been satisfied which is draw down from overflow orifice elevation provided within 96 hours and exceeds 24 hours for water quality volume. Submit Draw Down calculations.  (From Cycle 6)

For questions regarding the 'LDR-Engineering Review' review, please call Jack Canning at (619) 446-5425. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	38	Revise the details for the proposed Biofiltration BMPs. Callout an impermeable liner or uncompacted native soils at the bottom of the facility and the overflow structure system per BMP Design Fact Sheet BF-1 Biofiltration.  (From Cycle 6)
<input checked="" type="checkbox"/>	39	Engineering Review has no further comments at this time regarding the review and support of the Categorization of Infiltration Feasibility Condition Form I-8 pending Development Services Department Geology Review Section review and support of the Categorization of Infiltration Feasibility Condition Form I-8.  (From Cycle 6)
<input checked="" type="checkbox"/>	40	Revise the Pollutant Control BMP Design Worksheets / Calculations. Submit a completed BF-1 Biofiltration BMP Design Fact Sheet in accordance with Appendix E.  (From Cycle 6)
<input checked="" type="checkbox"/>	41	Submit a completed Biofiltration Criteria Checklist in accordance with Appendix F.  (From Cycle 6)
<input type="checkbox"/>	47	Project has been designed as a No Infiltration Condition. Only if Geology determines the project is a No Infiltration Condition will the treatment control BMPs with impermeable liners be acceptable. Otherwise the BMP will have to be redesigned to the BMP Fact Sheets of the identified Infiltration Condition.  (New Issue)
<input type="checkbox"/>	48	Project has been designed as a No Infiltration Condition, where the flow control for hydromodification management standard is the controlling design factor. This will require a determination of No Infiltration Condition by Development Services Geology Review.  (New Issue)
<input type="checkbox"/>	49	If Geology determines the project is a Full Infiltration Condition, where the retention for pollutant control performance standard is the controlling design factor, the project will have to be redesigned accordingly. (continued below) (New Issue)
<input type="checkbox"/>	50	If Geology determines the project is a Partial Infiltration Condition, where retention for pollutant control performance standard is the controlling design factor, project will have to be redesigned with maximum retention as feasible. The design will require an additional runoff storage area with outflow control for runoff to be discharged from the facility as needed to meet the flow control performance standards. Then design pollutant control needs for the portion of the storm water pollutant control DCV that could not be retained onsite.  (New Issue)
<input type="checkbox"/>	51	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.1. Worksheet line 11 states surface ponding depth is 33 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (New Issue)
<input type="checkbox"/>	52	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.2. Worksheet line 11 states surface ponding depth is 24 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (New Issue)
<input type="checkbox"/>	53	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.3. Worksheet line 11 states surface ponding depth is 33 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (New Issue)

**Engineering 3rd Review**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	42	Project has been designed as a No Infiltration Condition. Only if Geology determines the project is a No Infiltration Condition will the treatment control BMPs with impermeable liners be acceptable. Otherwise the BMP will have to be redesigned to the BMP Fact Sheets of the identified Infiltration Condition.  (New Issue)
<input type="checkbox"/>	43	Project has been designed as a No Infiltration Condition, where the flow control for hydromodification management standard is the controlling design factor. This will require a determination of No Infiltration Condition by Development Services Geology Review.  (New Issue)

For questions regarding the 'LDR-Engineering Review' review, please call Jack Canning at (619) 446-5425. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	44	If Geology determines the project is a Full Infiltration Condition, where the retention for pollutant control performance standard is the controlling design factor, the project will have to be redesigned accordingly. (continued below) (New Issue)
<input type="checkbox"/>	45	If Geology determines the project is a Partial Infiltration Condition, where retention for pollutant control performance standard is the controlling design factor, project will have to be redesigned with maximum retention as feasible. The design will require an additional runoff storage area with outflow control for runoff to be discharged from the facility as needed to meet the flow control performance standards. Then design pollutant control needs for the portion of the storm water pollutant control DCV that could not be retained onsite.  (New Issue)
<input type="checkbox"/>	46	Revise Grading Plan Sheet C1.2 Biofiltration Basin Detail. Detail shows and calls out surface ponding depth is 2 ft to 2.75 feet, which is not acceptable. Per BF-1 Biofiltration Fact Sheet Figure E-13-E.13-1 maximum ponding depth is 12 inches. Revise the detail and design accordingly.  (New Issue)

For questions regarding the 'LDR-Engineering Review' review, please call Jack Canning at (619) 446-5425. Project Nbr: 463835 / Cycle: 7





L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> Plan-MSCP	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Smit-Kicklighter, Holly (619) 236-6621 hsmit@sandiego.gov	<b>Assigned:</b> 09/12/2016	
	<b>Started:</b> 09/30/2016	
<b>Hours of Review:</b> 5.00	<b>Review Due:</b> 09/28/2016	
<b>Next Review Method:</b> Plan-MSCP (Appmt.)	<b>Completed:</b> 09/30/2016	<b>COMPLETED LATE</b>
	<b>Closed:</b> 10/03/2016	

- The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- We request a 4th complete submittal for Plan-MSCP on this project as: Plan-MSCP (Appmt.).
- The reviewer has requested more documents be submitted.
- Your project still has 1 outstanding review issues with Plan-MSCP (1 of which are new issues).
- Last month Plan-MSCP performed 22 reviews, 86.4% were on-time, and 41.2% were on projects at less than < 3 complete submittals.

## MSCP2ndRevJune2016

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	12	Correct name of applicant on all RECON report title sheets - i.e. Noise Report says Siavesh Haghkah and BTR says Slavesh Haghkah. The correct spelling is Siavash Haghkhah. (From Cycle 6)
<input checked="" type="checkbox"/>	26	According to SanGIS-SANDAG, most of the site is considered "Conserved Lands. In addition, per Reso #287317 and Environmental Document #35-0386, 34 acres of the site was set aside for mitigation for the Eastgate Technology Park. Provide an outline of the recorded conservation area on the site plans existing conditions sheet and provide 1:1 mitigation for the impacts to a mitigation site in addition to the ratios already required for the proposed project impacts per the City's Biology Guidelines. MSCP will PDF a copy of Exhibit B to RECON. (From Cycle 6)

## SITE PLANS

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	11	LANDSCAPE PLAN - Sheet L1,1- Given the sensitive nature of the site with vernal pools and native grasslands, please use only locally endemic species in the landscape plant for species at the edge of the development as these non-endemic species could easily invade/naturalize into the MHPA (i.e. change out Eriogonum cinereum to E californica; specify a native Artemisia species, CON'T (From Cycle 6)
<input checked="" type="checkbox"/>	13	use native sedges and juncus in the bio retention planting and groundcover areas (i.e. switch out Juncus patens which is rare and found in Cuyamaca area to J. acutus); switch out Carex divula and panse to C. spissa or other Carex locally endemic species - see James Lightner SD County Native Plants. (From Cycle 6)
<input checked="" type="checkbox"/>	14	LANDSCAPE PLAN - SHEET L-1 - Please show the treatment of the stormdrain installation leading to the west edge and an existing parking lot pipe, i.e. show how this area within the MHPA will be revegetated with native species.  SHEET C1.2- Label BFB and vignette as feature 19 per legend, Add/show dissipation feature type per SHEET L-1 (rip rap?) for overflow. (From Cycle 6)
<input checked="" type="checkbox"/>	15	BRUSH MANAGEMENT PLAN - Explain the need for non-standard 136 foot BM Zone. Why is BMZ1 at 79 feet and BMZ2 at 57 feet when the standard BMZ1 & 2 is 35 and 65 feet respectively. Provide Fire reviewer approval. (From Cycle 6)

## BTR RECON April 2016

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	16	MSCP has reviewed the RECON BTR (April 2016) for the N. University Fire Stn and has the following comments: (From Cycle 6)
<input checked="" type="checkbox"/>	17	GENERAL COMMENT - VERNAL POOLS -Although outside the study area, the existing Nobel Drive vernal pool complex on the parcel should be disclosed along with information regarding location and distance of the complex from the proposed project area (including BMZ2). (From Cycle 6)
<input checked="" type="checkbox"/>	18	GENERAL COMMENT -SOILS - A permit under Bulletin 511 has been issued, provide a soil map in the BTR with any refinements from the study to back up info provided in Section 4.1. (From Cycle 6)
<input checked="" type="checkbox"/>	19	GENERAL COMMENT - NOISE - Section 6.4.3 - Noise - Discuss the Municipal Code exemption for emergency vehicle sirens that was provided in the Applicants Response. Explain if existing land features, and proposed elements of the project would protect wildlife utilization of the MHPA for noise elements that are not exempt if they exceed 60 dB.

(From Cycle 6)

For questions regarding the 'Plan-MSCP' review, please call Holly Smit-Kicklighter at (619) 236-6621. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	22	Section 3.5 states that no jurisdictional wetland survey was done and Section 4.2.4 further describes a depression that was observed in Nov. 2015. Discuss in Section 3.1 any limitations in detecting vernal pools that may have occurred with the surveys that were done (i.e. was Nov 2015 the first rain of the season and/or after a prolonged drought and observed too soon to detect sprouting plants?). (From Cycle 6)
<input checked="" type="checkbox"/>	23	Section 5.4 - Sensitive Plants - Spreading Navarretia - cite the source for the critical habitat info here and in the references (i.e. USFWS 19??). (From Cycle 6)
<input checked="" type="checkbox"/>	24	Section 6.4.3 - Invasive Plants - this section lists only 18 of 47 non-native plants found on-site - please amend the list to include the other invasive/ornamental plants that are or have the potential to invade MHPA/native habitat on the parcel or negatively impact the success of the proposed native grassland restoration area. (From Cycle 6)
<input checked="" type="checkbox"/>	27	Please see issue 26 above and adjust the BTR accordingly. Also note, per the City's Biology Guidelines, the restoration of NNGL to Native Grassland does not require mitigation for the underlying NNGL. (From Cycle 6)
<input checked="" type="checkbox"/>	28	Figure 6 - Delineate the final extent of Brush Management Zone 2 area in relation to the Native Grassland Restoration area. (From Cycle 6)

**RESTORATION PLAN**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	25	Change all references of revegetation to restoration as this is a 5 year plan for mitigation credit rather than a 24-month plan to meet landscaping code requirements (that the term revegetation typically refers to). (From Cycle 6)
<input checked="" type="checkbox"/>	29	Section 4.1.1 & 4.1.3- Explain more clearly the area to be staked as there is a creation area and a restoration area with an irregularly shaped native grassland area sandwiched in between that must be protected during construction. Ensure that staging and access for grubbing areas are defined up front and that staking and flagging will not crack the clay layer & alter the water table or cause other damage to the native grassland. In addition, the southern border is likely already fenced to protect the adjacent gated community and perhaps only signage and fence repair is needed. (From Cycle 6)
<input checked="" type="checkbox"/>	30	Section 4.1.3 - Translocate any existing cryptogamic crusts/ashy spike moss to areas to be preserved if available. (From Cycle 6)
<input checked="" type="checkbox"/>	31	Section 4.3 - Plant palette - ensure that all species to be introduced are found within the native areas on the site. Therefore augment the species list to include all valley needle grass annual and shrub species that are currently found on-site. (From Cycle 6)
<input checked="" type="checkbox"/>	32	Section 4.3 - Currently nearby to the site is critical habitat for Navarretia fossalis and sensitive species discussion in the BTR states that two other Navarretia are found in similar habitat but not on the site (N. intertexta and N. prostrata) so introducing a new species including N. hamata should not occur. Use N. fossalis is available from translocation or a local source. (From Cycle 6)
<input checked="" type="checkbox"/>	33	Section 6.2.1 - The anticipated exotic species list should include all 47 species of non-natives (including ornamentals) listed in the BTR as being on-site. See comment 24 also. (From Cycle 6)

**MSCP 3rd Rev Sept 2016**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	34	BIO REPORT (RECON AUG 2016) - Section 6.4.3- Invasive Species - State that the species listed are existing on the project site now and they and other non-native species that crop up will be removed/controlled on-site where they are within the MHPA or have the potential to invade the MHPA. (New Issue)

For questions regarding the 'Plan-MSCP' review, please call Holly Smit-Kicklighter at (619) 236-6621. Project Nbr: 463835 / Cycle: 7





L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Transportation Dev	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Islas, Karen (619) 446-5206 Kislas@sandiego.gov	<b>Assigned:</b> 08/30/2016	
	<b>Started:</b> 09/28/2016	
<b>Hours of Review:</b> 4.00	<b>Review Due:</b> 09/28/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/28/2016	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 10/03/2016	

- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- . We request a 4th complete submittal for LDR-Transportation Dev on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 11 outstanding review issues with LDR-Transportation Dev (6 of which are new issues).
- . Last month LDR-Transportation Dev performed 66 reviews, 87.9% were on-time, and 46.8% were on projects at less than < 3 complete submittals.

### S-13021.02.06 - 1st Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	1	Project Description: Site Development Permit (CIP-2) to construct a new three story 12,347 sq. ft. fire Station within ESL containing sensitive biological resources on City owned land. The project is located within the RS-1-14 Zone, MHPA, FAA-Miramar, and Council District 1.  (From Cycle 2)
<input type="checkbox"/>	4	Show proposed signal warning system at Nobel Dr. on site plan.  (From Cycle 2)
<input checked="" type="checkbox"/>	5	Show approximate dimensions for proposed median cut on site plan.  (From Cycle 2)
<input checked="" type="checkbox"/>	9	Sight Distance: Demonstrate on site plan that there is adequate sight distance for vehicles exiting the proposed Nobel Drive driveway.  (From Cycle 2)
<input checked="" type="checkbox"/>	12	Additional Comments (information only, no action required): Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles.  (From Cycle 2)

### S-13021.02.06 - 2nd Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	13	Traffic Analysis: Comments on the traffic analysis memo dated 04/20/16 were sent to the DPM, EAS, and the applicant's traffic engineer on 06/03/16.  Major issues include: - Add explanation for how 20% peak AM/PM was determined. (From Cycle 6)
<input type="checkbox"/>	14	In response to Issue #4 proposed warning signal, it is mentioned in the Traffic Memo dated 04/20/2016 - the installation of a new traffic signal is recommended on Nobel Drive to stop eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. Please show on Site Plan Sheet A1.0, the new proposed traffic signal. (From Cycle 6)
<input checked="" type="checkbox"/>	15	In response to Issue #9, please show available sight distance for a vehicle exiting Nobel Drive driveway. (From Cycle 6)
<input type="checkbox"/>	16	Median-cut/Driveway:  In accordance with LDC Table 142-05M, the maximum width for one way circulation outside of the parking impact overlay zone is 20 feet. Please revise plan to reflect regulation and demonstrate why median break is not narrower. (From Cycle 6)
<input checked="" type="checkbox"/>	17	The driveway on Nobel Drive will be one way vehicle circulation; how will drivers access the parking spaces #14 and #15? Please explain. (From Cycle 6)

For questions regarding the 'LDR-Transportation Dev' review, please call Karen Islas at (619) 446-5206. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
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<input checked="" type="checkbox"/>	18	Additional Comments (information only, no action required):  Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles. (From Cycle 6)
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**S-13021.02.06 - 3rd Review**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
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<input type="checkbox"/>	22	Traffic Analysis Memo dated 06/14/16:  Please provide additional information on why the trip generation for the incidents assumes that 2 of the 11 average daily calls would occur in AM/PM peak hours? (New Issue)
<input type="checkbox"/>	21	In response to Issue #4 & #14, proposed warning signal, it is mentioned in the Traffic Memo dated 04/20/2016 - the installation of a new traffic signal is recommended on Nobel Drive to stop eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. Please show on Site Plan Sheet A1.0, the new proposed traffic signal. (New Issue)
<input type="checkbox"/>	23	Median-cut:  Based on Attachment 12 of Traffic Analysis Memo dated 06/14/16 & Sheet A1.10, the fire truck would be perpendicular to the roadway and it will not be sweeping; therefore, the additional break in the median does not seem necessary. Please revise site plan. (New Issue)
<input type="checkbox"/>	19	Parking:  Please add note on site plan: "parking spaces east of apparatus bay should be signed as Employee Only since they cannot be accessed by the public" (New Issue)
<input type="checkbox"/>	24	Additional Comments (information only, no action required):  Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles. (New Issue)

**Draft Permit Conditions**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
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<input type="checkbox"/>	20	Parking spaces east of apparatus bay should be signed as Employee Only since they cannot be accessed by the public. (New Issue)
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For questions regarding the 'LDR-Transportation Dev' review, please call Karen Islas at (619) 446-5206. Project Nbr: 463835 / Cycle: 7





L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> Plan-Long Range Planning	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Monroe, Dan (619) 236-5529 DMMonroe@SanDiego.gov	<b>Assigned:</b> 08/30/2016	
	<b>Started:</b> 09/27/2016	
<b>Hours of Review:</b> 2.00	<b>Review Due:</b> 09/28/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/27/2016	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 10/03/2016	

- . We request a 4th complete submittal for Plan-Long Range Planning on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Last month Plan-Long Range Planning performed 24 reviews, 79.2% were on-time, and 45.5% were on projects at less than < 3 complete submittals.

### LRP 1st Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	4	The Public Facilities Element of the UCP was amended in December 2006 to add language citing the need for additional public safety related facilities (police, fire, and emergency medical response) to assure levels of service standards are attained for existing development and as development occurs. Please provide evidence that the proposed station location would help meet the coverage needs to meet fire department standards. (i.e. coverage maps before and after for the proposed station location) (From Cycle 2)
<input checked="" type="checkbox"/>	5	The UCP Public Facilities Element also states the new public safety related facilities should have good vehicular access and be carefully reviewed for environmental, land use and aesthetic impacts. (From Cycle 2)
<input checked="" type="checkbox"/>	6	The proposed fire station is adjacent to a multi-family residential development to the south along Shoreline drive. Noise from sirens of exiting fire apparatus and emergency call broadcasts in the fire house may be a concern for residents. There appears to be a substantial distance between the fire station and actual residential units. Please provide the distance to the nearest residential units along Shoreline Drive as well as the northwest corner of Shoreline Dr and Nobel Dr. Please also provide the siren protocol for the fire apparatus leaving the station and CNEL for sirens. (From Cycle 2)

### LRP 2nd Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	9	In order to make a determination that the proposed station would not adversely affect the UCP, additional information is still required. (From Cycle 6)
<input checked="" type="checkbox"/>	10	LRP has reviewed the Citygate Report as noted in response to issue 4. However, Citygate identifies the need for an additional station in North University City but does not identify a general location. As requested in Issue 4, please provide coverage maps (existing & proposed) which demonstrate that the site's location will meet the report's recommendation for an additional site in North University City to meet response standards. (From Cycle 6)
<input checked="" type="checkbox"/>	11	The General Plan Noise Element's main goal is to consider existing and future noise levels when making land use planning decisions to minimize people's exposure to excessive noise. To achieve this goal, the element includes Table NE-2, Noise and Land Use Compatibility Guidelines which identifies compatible, conditionally compatible and incompatible land use with exterior noise exposure (dBA CNEL). Multi-Family development is considered conditionally compatible up to 70 dB CNEL with interior noise levels of up to 45 dB. (From Cycle 6)
<input checked="" type="checkbox"/>	12	cont'd: Multi-Family land use is adjacent to the project site. The noise diagram provided in response to Issue 6 identifies the distance to the nearest residences from the station. However, as stated in a letter from Recon dated May 2, 2016, addressed to Mr. Scott Maas, single event emergency responses may exceed 104 dB at nearby residences and interior levels up to 79 dB. (From Cycle 6)
<input checked="" type="checkbox"/>	13	Please provide LRP with a copy of the Noise Study requested by LDR-Environmental. The Noise Study should include the applicable analysis identified in the General Plan Noise Element Table NE-4. Please be sure the study includes the CNEL contours based on emergency response to help determine compatibility for surrounding residential use. (From Cycle 6)

### LRP 3rd Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	14	Re: Issue 10, LRP received a Memo from Kevin Ester, Assistant Fire Chief, Fire-Resuce Department dated September 21, 2016. The memo states, "This memo is in response to the cycle review issue #10, dated 6/13/16, for Fire Station 50 (North University City). Based upon our review of the 2011 Citygate Standards of Response Coverage Deployment Study the selected site for the new fire station meets the needs of the community and Fire Department. Furthermore, the location will help meet the Fire Department's response time standards in the North University City area." (New Issue)

For questions regarding the 'Plan-Long Range Planning' review, please call Dan Monroe at (619) 236-5529. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	15	LRP has received and reviewed the Noise Analysis for the North UC Fire Station 50 Project dated August 12, 2016. The analysis includes an evaluation of General Plan Land Use Compatibility Noise Standards which concludes that the location and operation of Station 50 would not be inconsistent with surrounding land use. Additionally, Section 59.5.0402 of the City's Noise Ordinance exempts "emergency vehicles when being used in emergency situations including the blowing of sirens and/or horns" from all noise standards. (New Issue)
<input checked="" type="checkbox"/>	16	LRP has no further issues. (New Issue)





L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Landscaping	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Radcliffe-Meyers, Lori (619) 446-5129 Lradcliffeme@sandiego.gov	<b>Assigned:</b> 09/29/2016	
	<b>Started:</b> 09/29/2016	
<b>Hours of Review:</b> 0.00	<b>Review Due:</b> 09/28/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/29/2016	<b>COMPLETED LATE</b>
	<b>Closed:</b> 10/03/2016	

- . We request a 4th complete submittal for LDR-Landscaping on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 9 outstanding review issues with LDR-Landscaping (None of which are new)
- . Last month LDR-Landscaping performed 77 reviews, 88.3% were on-time, and 37.5% were on projects at less than < 3 complete submittals.

## 2nd Review Cycle 6 06/01/16

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	10	Previous issues have been addressed and cleared. LDR-Landscape Review has no further issues with the project.  (From Cycle 6)

## Permit Conditions

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	11	Prior to issuance of any engineering permits for grading, the Owner/Permittee shall submit complete construction documents for the revegetation and hydroseeding of all disturbed land in accordance with the Landscape Standards and to the satisfaction of the Development Services Department. All plans shall be in substantial conformance to this permit (including Environmental conditions) and Exhibit 'A,' on file in the Office of the Development Services Department.  (From Cycle 6)
<input type="checkbox"/>	12	Prior to issuance of any construction permits for grading, the Owner/Permittee shall submit complete Landscape Construction Documents showing the brush management zones on the property in substantial conformance with Exhibit 'A' in accordance with the Landscape Standards and to the satisfaction of the Development Services Department.  (From Cycle 6)
<input type="checkbox"/>	13	Prior to issuance of any engineering permits for right-of-way improvements, the Owner/Permittee shall submit complete landscape construction documents for right-of-way improvements to the Development Services Department for approval. Improvement plans shall show, label, and dimension a 40 sq-ft area around each tree which is unencumbered by utilities. Driveways, utilities, drains, water and sewer laterals shall be designed so as not to prohibit the placement of street trees.  (From Cycle 6)
<input type="checkbox"/>	14	In the event that a foundation only permit is requested, the Owner/Permittee shall submit a site plan or staking layout plan identifying all landscape areas consistent with Exhibit 'A,' Landscape Development Plan, on file in the Office of the Development Services Department. These landscape areas shall be clearly identified with a distinct symbol, noted with dimensions and labeled as 'landscaping area.'  (From Cycle 6)
<input type="checkbox"/>	15	Prior to issuance of any construction permits for structures, the Owner/Permittee shall submit complete landscape and irrigation construction documents consistent with the Landscape Standards to the Development Services Department for approval. The construction documents shall be in substantial conformance with Exhibit 'A,' Landscape Development Plan, on file in the Development Services Department. Construction plans shall show, label, and dimension a 40 sq-ft area around each tree which is unencumbered by hardscape and utilities as set forth under LDC 142.0403(b)(5).  (From Cycle 6)

For questions regarding the 'LDR-Landscaping' review, please call Lori Radcliffe-Meyers at (619) 446-5129. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	16	<p>Prior to issuance of any construction permits for structures, the Owner/Permittee shall submit a water budget in accordance with the Water Conservation Requirements per SDMC 142.0413, Table 142-04I, to be included with the construction documents. An irrigation audit shall be submitted consistent with Section 2.7 of the Landscape Standards of the Land Development Manual at final inspection. The irrigation audit shall certify that all irrigation systems have been installed and operate as approved by the Development Services Department.</p> <p>(From Cycle 6)</p>
<input type="checkbox"/>	17	<p>The Owner/Permittee shall be responsible for the maintenance of all landscape improvements shown on the approved plans, including in the right-of-way, consistent with the Landscape Standards unless long-term maintenance of said landscaping will be the responsibility of a Landscape Maintenance District or other approved entity. All required landscape shall be maintained in a disease, weed and litter free condition at all times. Severe pruning or "topping" of trees is not permitted unless specifically noted in this Permit.</p> <p>(From Cycle 6)</p>
<input type="checkbox"/>	18	<p>If any required landscape (including existing or new plantings, hardscape, landscape features, etc.) indicated on the approved construction document plans is damaged or removed during demolition or construction, the Owner/Permittee shall repair and/or replace it in kind and equivalent size per the approved documents to the satisfaction of the Development Services Department within 30 days of damage.</p> <p>(From Cycle 6)</p>

For questions regarding the 'LDR-Landscaping' review, please call Lori Radcliffe-Meyers at (619) 446-5129. Project Nbr: 463835 / Cycle: 7





L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Geology	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Mills, Kreg (619) 446-5295 Kmills@sandiego.gov	<b>Assigned:</b> 08/31/2016	
	<b>Started:</b> 09/27/2016	
<b>Hours of Review:</b> 2.50	<b>Review Due:</b> 09/28/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/29/2016	<b>COMPLETED LATE</b>
	<b>Closed:</b> 10/03/2016	

- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: New Document Required.
- . We request a 4th complete submittal for LDR-Geology on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 5 outstanding review issues with LDR-Geology (3 of which are new issues).
- . Last month LDR-Geology performed 111 reviews, 85.6% were on-time, and 56.2% were on projects at less than < 3 complete submittals.

### 463835-2 (2/3/20126)

#### REFERENCES:

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	1	Geologic Reconnaissance, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated May 29, 2015 (their project no. 107954001)  City of San Diego Memorandum, Subject: Site Development Permit application for Fire Station #50, WBS#S-13021.02.06, prepared by Siavash Haghkhal, Project Manager, AEP Design Division, Public Works Department, dated January 5, 2016  Development Plans, Fire Station 50, prepared by Safdie Rabines Architects, undated  (From Cycle 2)

#### COMMENTS:

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	2	The project's geotechnical consultant must submit an addendum geotechnical report or update letter that specifically addresses the referenced development plans and the following:  (From Cycle 2)
<input checked="" type="checkbox"/>	3	The addendum must contain a site-specific geologic/geotechnical map that shows the distribution of fill and geologic units, and proposed grading. Circumscribe the limits of recommended remedial grading to delineate the proposed footprint of the project and show anticipated target removal elevations on the geologic/geotechnical map. The preliminary grading plan could provide a suitable base map.  (From Cycle 2)
<input checked="" type="checkbox"/>	4	The project's geotechnical consultant should provide representative geologic/geotechnical cross sections that show the existing and proposed grades, distribution of fill and geologic units, and groundwater conditions. Show the anticipated area of recommended remedial grading, including temporary slopes.  (From Cycle 2)
<input type="checkbox"/>	5	The project's geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level.  (From Cycle 2)
<input type="checkbox"/>	6	According to the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 54, indicating potential slope instability. The project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion.  (From Cycle 2)

### 463835-6 (6/3/2016)

#### COMMENTS:

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
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For questions regarding the 'LDR-Geology' review, please call Kreg Mills at (619) 446-5295. Project Nbr: 463835 / Cycle: 7





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	11	The previous review comments that have not been cleared remain applicable.  (From Cycle 6)
<input checked="" type="checkbox"/>	12	Storm Water Requirements for the proposed conceptual development will be evaluated by LDR-Engineering review. Priority Development Projects (PDPs) may require an investigation of storm water infiltration feasibility in accordance with the Storm Water Standards (including Appendix C and D). Check with your LDR-Engineering reviewer for requirements. LDR-Engineering may determine that LDR-Geology review of a storm water infiltration evaluation is required.  (From Cycle 6)

463835-7 (9/29/2016)

**REFERENCES:**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	13	Geologic Reconnaissance, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated May 29, 2015 (their project no. 107954001)  Geotechnical Evaluation, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated August 18, 2016  Development Plans, Fire Station 50, prepared by Safdie Rabines Architects, undated  (New Issue)

**COMMENTS:**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	14	The previous review comments that have not been cleared remain applicable.  (New Issue)
<input type="checkbox"/>	15	This proposed development is a Priority Development Project (PDP). The project's geotechnical consultant must submit an addendum geotechnical report that provides the information required in the Storm Water Standards, Part 1, BMP Design Manual ( <a href="https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf">https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf</a> ) and Appendix F of the City's Guidelines for Geotechnical Reports.  (New Issue)

For questions regarding the 'LDR-Geology' review, please call Kreg Mills at (619) 446-5295. Project Nbr: 463835 / Cycle: 7





# Cycle Issues

THE CITY OF SAN DIEGO  
Development Services Department  
1222 First Avenue, San Diego, CA 92101-4154

L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> Airport Authority	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Deisher, Helene	<b>Assigned:</b> 09/08/2016	
(619) 446-5223	<b>Started:</b> 09/08/2016	
hmdeisher@sandiego.gov	<b>Review Due:</b> 09/21/2016	
<b>Hours of Review:</b> 1.00	<b>Completed:</b> 09/08/2016	<b>COMPLETED ON TIME</b>
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Closed:</b> 10/03/2016	

- . The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- . We request a 2nd complete submittal for Airport Authority on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Last month Airport Authority performed 7 reviews, 85.7% were on-time, and 85.7% were on projects at less than < 3 complete submittals.

## New Issue Group (2589892)

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	1	Per my review of the project description and location, this does not require ALUC review; it is outside all safety zones and the use (a fire station) is consistent with the noise standards.  Garret Hollarn Sr. Airport Planner / GIS Coordinator Airport Planning and Noise Mitigation T 619.400.2788   F 619.400.2787 ghollarn@san.org (New Issue)

For questions regarding the 'Airport Authority' review, please call Helene Deisher at (619) 446-5223. Project Nbr: 463835 / Cycle: 7



**ATTACHMENT B**  
**WORKSHEET C.4-1**



## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
<p>Provide basis:</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
Part 1 Result*	<p>If all answers to rows 1 - 4 are “Yes” a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration</p> <p>If any answer from row 1-4 is “No”, infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a “full infiltration” design. Proceed to Part 2</p>		

\*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings.

## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	X	
Provide basis:  Site-specific infiltration testing has not been performed. Based on review of soil survey maps, the onsite materials consist of NRCS Soil Group D. According to Table G.105 of the City Storm Water BMP Design Manual dated January 2016, Soil Group D has a potential infiltration rate ranging between 0 and 0.02 inches per hour.  Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: The onsite soils are anticipated to exhibit a relatively low infiltration (i.e., potential infiltration rates ranging between 0 to 0.02 inches per hour) as discussed in Criteria 1 and 5. However, as discussed in Criteria 1 and Section 8.12 of the project Geotechnical Report prepared by Ninyo & Moore, we do not recommend infiltration due to the potential of lateral migration of water and potentially adverse effects (i.e., volumetric changes) to the soils beneath improvements and potential instabilities within the adjacent slopes. As stated in Section 8.12 of the project Geotechnical Report, we recommend that the bottom and sides of stormwater control devices be lined with an impermeable liner.  Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			



February 9, 2017  
Project No. 107954001

Mr. Scott Maas  
Safdie Rabines Architects  
925 Fort Stockton Drive  
San Diego, California 92103

Subject: Response to Cycle 11 Review Comments  
North University Fire Station No. 50  
Nobel Drive and Shoreline Drive  
San Diego, California

Dear Mr. Maas:

In accordance with your request, this letter has been prepared in response to the City of San Diego Cycle 11 review comments dated January 30, 2017 regarding the subject project. Specifically, this letter provides responses to Geology review comments 5, 6, 19, 20, and 21 in the City's review comments letter (City of San Diego, 2016) for the project.

***Checklist Item 5 Comment:***

*The project's geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level. (From Cycle 2)*

**Response:**

As stated in Section 7 Conclusions of our referenced geotechnical evaluation report (Ninyo & Moore, 2016a), "it is our opinion that construction of the proposed fire station is feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction of the project." The site is considered suitable for the proposed development provided that the recommendations presented in the geotechnical evaluation report (Ninyo & Moore, 2016a) are incorporated.

**Checklist Item 6 Comment:**

*According the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 54, indicating potential slope instability. The project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion. (From Cycle 2)*

**Response:**

As discussed in Section 6.2 Landsliding of our referenced geotechnical evaluation report (Ninyo & Moore, 2016a) our site reconnaissance and subsurface evaluation found competent Scripps Formation materials that did not exhibit evidence of fractures and/or zones of soft clay associated with shallow landsliding. Additionally, Section 8.1.11 New Slopes presents recommendations for construction of new slopes. Accordingly, it is our opinion that the slopes will be globally and surficially stable (i.e., have a factor of safety of 1.5 or greater) provided the recommendations presented in the referenced geotechnical evaluation report (Ninyo & Moore, 2016a) are followed.

**Checklist Item 19 Comment:**

*The project's geotechnical consultant must submit an addendum geotechnical report or update letter that specifically addresses the proposed development plans for the purposes of environmental review and the following [Items 20 and 21]: (New Issue)*

**Response:**

This letter has been prepared as an addendum geotechnical report to the referenced reports (Ninyo & Moore, 2015, 2016a, 2016b).

**Checklist Item 20 Comment:**

*As previously requested, and for the purposes of environmental review, the geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level. (New Issue)*

**Response:**

See response to Checklist Item 5.

**Checklist Item 21 Comment:**

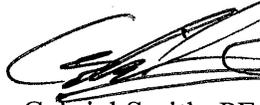
*As previously requested, the project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion. (New Issue)*

**Response:**

See response to Checklist Item 6.

We appreciate the opportunity to be of service on this project.

Respectfully submitted,  
NINYO & MOORE

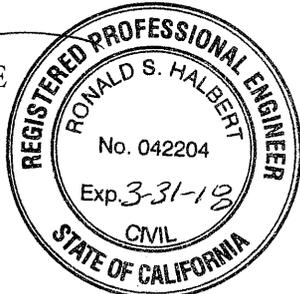


Gabriel Smith, PE  
Project Engineer

GS/RSH/gg

Attachments: References  
Attachment A – City of San Diego Review Comments

Distribution: (1) Addressee



Ronald S. Halbert, PE  
Principal Engineer

## **REFERENCES**

- City of San Diego, 2016, Cycle Issues Report No. 11, North University Fire Station No. 50, Project No. 463835, WBS S-13021.02.06: dated January 30.
- Ninyo & Moore, 2015, Geologic Reconnaissance, Proposed Fire Station No. 50, Nobel Drive and Shoreline Drive, San Diego, California, Project No. 107954001: dated May 29.
- Ninyo & Moore, 2016a, Geotechnical Evaluation, Proposed Fire Station No. 50, Nobel Drive and Shoreline Drive, San Diego, California, Project No. 107954001: dated August 18.
- Ninyo & Moore, 2016b, Response to Review Comments Geology Review of Geotechnical Evaluation, North University Fire Station No. 50, Nobel Drive and Shoreline Drive, San Diego, California, Project No. 107954001: dated December 16.

**ATTACHMENT A**  
**CITY OF SAN DIEGO REVIEW COMMENTS**

January 30, 2017

[SHaghkhah@sandiego.gov](mailto:SHaghkhah@sandiego.gov)

Siavash Haghkhah  
525 B Street, Suite 750  
San Diego, CA 92101

Dear Mr. Haghkhah:

Subject: North University Fire Station No. 50, Assessment Letter; Project No. 463835,  
WBS S-13021.02.06

The Development Services Department has completed the **fourth review** of the project referenced above, and described as:

- Construction of a new three story 12,347 square foot fire station within environmentally sensitive lands (ESL) (biological resources). The proposed station is on north west corner of Nobel Drive and Shoreline Drive of a City owned parcel (APN No. 345-011-24-00). The project site is zoned RS-1-14 and mapped as, MHPA, FAA-77 Miramar, and is within the North University Community Planning area, Council District 1

Enclosed is Cycle Issues Report No.11 (Enclosure 1) which contains review comments from staff representing various disciplines, outside agencies. The purpose of this assessment letter is to summarize the significant project issues and identify a course of action for the processing of your project.

If any additional requirements should arise during the subsequent review of your project, we will identify the issue and the reason for the additional requirement. To resolve any outstanding issues, please provide the information that is requested in the Cycle Issues Report. If you choose not to provide the requested additional information or make the requested revisions, processing may continue. However, the project may be recommended for denial if the remaining issues cannot be satisfactorily resolved and the appropriate findings for approval cannot be made.

As your Development Project Manager, I will coordinate all correspondence, emails, phone calls, and meetings directly with the applicants assigned "Point of Contact." The addressee on this letter has been designated as the Point of Contact for your project. Please notify me if you should decide to change your Point of Contact while I am managing this project.

**I. REQUIRED APPROVALS/FINDINGS** - Your project as currently proposed requires the processing of: **NOTE** Remember to add Draft Findings and applicants Response to issues as documents for next cycle.

➤ **Site Development Permit (SDP) Process CIP 2 for Environmentally Sensitive Lands (ESL) (Biological Resources). Please note that an SDP CIP 5 would be required if it determined that the site has vernal pools and additional findings would be considered.**

- **Required Findings:** In order to recommend approval of your project, certain findings must be substantiated in the record. During the first review of the project, the applicable findings will be identified and draft applicant findings are being requested. Enclosure 2 contains the required findings.

**II. SIGNIFICANT PROJECT ISSUES:** The significant project issues are summarized below. Resolution of these issues could affect your project. **Additional explanation is provided in the Cycle Issues Report.**

**Key Issues:**

- **LDR Environmental-** Still requires some modifications to documents and draft mitigation language.
- **LDR Environmental** –As discussed the project requires the preparation of a CAP checklist. Both parts must be completed as the project proposes occupancy.
- **LDR Environmental-** Please not a correction/clarification to comments No. 61 and 62.
- **LDR Engineering-** cleared issues- Please note the conditions that will be applicable to the project.
- **Plan MSCP-** Has a minor change which can be addressed as an appointment with the reviewer.
- **LDR Transportation-** Has previous comments that have not been addressed and additional comments which need to be addressed. Please see comments.
- **LDR Geology-** Still has several outstanding issues most of which have been requested several times.
- **Project Management-** Please be advised that the draft conditions of approval will be placed in the permit. Please make sure you can implement the conditions.

- III. **Studies/Reports Required:** A number of documents have been identified as necessary to the project's review. Reference the attached Submittal Requirements Report (Enclosure 3).
- IV. **PROJECT ACCOUNT STATUS:** When submitting your project please reaffirm WBS number is open to DSD and Planning. Please contact me immediately if there are any changes to these numbers.
- V. **TIMELINE:** Upon your review of the attached Cycle Issues Report, you may wish to schedule a meeting with staff and your consultants prior to resubmitting the project. Please telephone me if you wish to schedule a meeting with staff. During the meeting, we will also focus on key milestones that must be met in order to facilitate the review of your proposal and to project a potential timeline for a hearing date.

Your next review cycle should take approximately 20 days to process.

If you wish to continue processing this project, please note that delays in resubmitting projects and/or responding to City staff's inquiries negatively impact this Department's ability to effectively manage workload, which can lead to both higher processing costs and longer timelines for your project.

- VI. **RESUBMITTALS/NEXT STEPS:** When you are ready to resubmit, please call me directly to confirm the submittal requirements have not changed for the next review cycle. Once we review the submittal requirements, you may contact Helene Deisher for a Public Project resubmittal at 619-446-5223 or via e-mail at [HMDeisher@sandiego.gov](mailto:HMDeisher@sandiego.gov) for an appointment.

NOTE: Full size plans should be folded to an approximate 8 ½ x 11 inch size.

San Diego County Clerk Fee: The San Diego County Clerk requires \$50.00 to post the required public notice informing the public that a draft environmental document has been prepared. A check made out to the San Diego County Clerk for this amount will be required prior to the distribution of the draft environmental document for public review.

**\*\*\*Note:** New California Environmental Quality Act (CEQA) document filing fees shown below are in effect on Jan. 1, 2016.

CDFG LINK- <https://www.wildlife.ca.gov/Conservation/CEQA/Fees>

D. CEQA Filing Fees: Option 1– Required for projects with environmental document (ND, MND or EIR): A California Environmental Quality Act (CEQA) Notice of Determination (NOD) must be filed within five working days after the project's approval and all appeal periods have been exhausted. Filing the NOD would start a 30-day statute of limitations on legal court challenges to the approval under CEQA. The NOD must be accompanied by a California Department of Fish and Wildlife Fee (CDFW) filing fee or a CDFW "No Effect" form, and a San Diego County document handling fee.

Prior to scheduling your project for a decision, the following must be forwarded to me to be filed with the CEQA NOD:

- A check, payable to the "San Diego County Clerk" in the amount of \$2,260.25 (\$2,210.25 CDFW fee + \$50 handling fee) if a Negative Declaration or a Mitigated Negative Declaration was prepared for your project; **or** \$3,120.00 (\$3,070.00 CDFW Fee + \$50 handling fee) if an Environmental Impact Report was prepared for your project. Please include your project number on the check.

A receipt for the fee and a copy of the CDFW "No Effect" Form or NOD will be forwarded to you after the 30-day posting requirement by the County Clerk.

E. Records Fee: A Records Fee, to cover the cost of imaging and archiving your complete project record electronically, will be billed to your projects account (see Information Bulletin 503).

**VII. COMMUNITY PLANNING GROUP:** Please provide a copy of community planning group's meeting minutes.

Council Policy 600-24 provides standard operating procedures and responsibilities of recognized Community Planning Committees and is available at <http://www.sandiego.gov/city-clerk/officialdocs/index.shtml>

**VIII. STAFF REVIEW TEAM:** Should you require clarification about specific comments from the staff reviewing team, please contact me, or feel free to contact the reviewer directly. The names and telephone numbers of each reviewer can be found on the enclosed Cycle Issues Report.

In conclusion, please resubmit your project for a site development permit and related documents that require changes to the Development Services Department.

Additional information and links to bulletins and guidelines can be found at: <http://citynet/dsd/publicprojects.shtml>

For modifications to the project scope, submittal requirements or questions regarding any of the above, please contact me prior to resubmittal. I may be reached by telephone at (619)446-5223 or via e-mail at [HMDeisher@sandiego.gov](mailto:HMDeisher@sandiego.gov)

Sincerely,



Helene Deisher  
Development Project Manager

Enclosures:

1. Cycle No. 11 Issues Report
2. Submittal Requirements Report
3. Draft Permit Conditions (included in cycle review comments)
4. E-mail from Chris Tracy regarding Comments 61 & 62

cc: File  
Janay Kruger, Chair University Community Planning Group  
Reviewing Staff (Assessment letter only)



L64A-003A

## Project Information

**Project Nbr:** 463835      **Title:** N. Univ Fire Station No 50 SDP  
**Project Mgr:** Deisher, Helene      (619) 446-5223      hmdeisher@sandiego.gov



## Review Information

<b>Cycle Type:</b> 11 Submitted (Multi-Discipline)	<b>Submitted:</b> 01/03/2017	Deemed Complete on 01/04/2017
<b>Reviewing Discipline:</b> LDR-Environmental	<b>Cycle Distributed:</b> 01/04/2017	
<b>Reviewer:</b> Tracy, Christopher (619) 446-5381 CRTracy@sandiego.gov	<b>Assigned:</b> 01/05/2017	
	<b>Started:</b> 01/05/2017	
<b>Hours of Review:</b> 5.50	<b>Review Due:</b> 01/26/2017	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 01/26/2017	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 01/30/2017	

- . The review due date was changed to 01/26/2017 from 02/02/2017 per agreement with customer.
- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: New Document Required.
- . We request a 5th complete submittal for LDR-Environmental on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 10 outstanding review issues with LDR-Environmental (9 of which are new issues).
- . Last month LDR-Environmental performed 78 reviews, 89.7% were on-time, and 36.2% were on projects at less than < 3 complete submittals.

### 📁 Cycle 7 - 9/28/2016

#### 📁 BIOLOGY

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	56	Page 48 - Biological Resources Report

Please provide draft Mitigation language for all species identified. LDR-Environmental will defer to Plan-MSCP for a final determination. (From Cycle 7)

#### 📁 NATIVE GRASSLANDS

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	57	Page 12 - Section 4.0 "Implementation"

Please provide a section that provides proposed mitigation language using standard City protocol. LDR-Environmental will defer to Plan-MSCP for a final determination. (From Cycle 7)

#### 📁 OTHER REVIEW DISCIPLINES

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	54	Corrections/uncleared issues are still applicable within this review cycle with respect to LDR-Engineering, Geology, Transportation, and Plan-MSCP with that could still potentially affect the final CEQA determination. As such, EAS is not able to complete the Initial Study for your project and the environmental processing timeline will be held in abeyance. LDR-Environmental will review these issue areas within the next review cycle. (From Cycle 7)

### 📁 Cycle 11 - 1/26/17

#### 📁 AB 52 CONSULTATION

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	59	This project is subject to Tribal Consultation under AB 52. While the MND is being prepared, Planning staff will distribute notification to the local Kumeyaay community for possible consultation on this project. Please note that a request for consultation must be submitted by the tribe within 30 days of initial notification. If no request is made, the draft MND will be released for public review. If a request for consultation is made, then the draft MND will be held in abeyance until the consultation process has been completed. (New Issue)

#### 📁 AB 52 STATUS

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	60	January 18, 2017 - Outreach concerning AB 52 was initiated for this project by City staff. To date, no additional comments have been provided by a Kumeyaay community representative concerning AB 52 consultation, if consultation would be desired. (New Issue)

#### 📁 ARCHEOLOGICAL RESOURCES REPORT

For questions regarding the 'LDR-Environmental' review, please call Christopher Tracy at (619) 446-5381. Project Nbr: 463835 / Cycle: 11





L64A-003A

<u>Issue</u>		
<u>Cleared?</u>	<u>Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	61	Please update Page 3, Part III "Area of Potential Effect" from 0.92-acre project site to 0.96-acre project site. (New Issue)
<input type="checkbox"/>	62	Please update the National Archeological Database Info Sheet
Acreage: 0.94-acre should be 0.92-acre (New Issue)		
<b>BIOLOGY SURVEY REPORT</b>		
<u>Issue</u>		
<u>Cleared?</u>	<u>Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	63	Please incorporate Invasive Plant protocols as detailed in Section 6.4.3 into the Land Use Adjacency Mitigation Section 7.4 F. (New Issue)
<b>OTHER REVIEW DISCIPLINES</b>		
<u>Issue</u>		
<u>Cleared?</u>	<u>Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	64	Corrections/open uncleared issues are still applicable within this review cycle with respect to LDR-Geology, Transportation, and Plan-MSCP (Separate Review Cycle 9 - Open) that could still potential affect the final CEQA determination. As such, EAS is not able to complete the Initial Study for your project and the environmental processing timeline will be held in abeyance. LDR-Environmental will review these issue areas within the next review cycle. (New Issue)
<b>GHG - CAP CHECKLIST</b>		
<u>Issue</u>		
<u>Cleared?</u>	<u>Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	65	All projects currently in process, not approved, and regardless for CEQA status must comply with the City's adopted the Climate Action Plan (CAP). On July 12, 2016, the City of San Diego adopted the Climate Action Plan (CAP) Consistency Checklist, which requires all projects subject to discretionary review to demonstrate consistency with the Climate Action Plan. You will need to prepare the CAP checklist. (New Issue)
<input checked="" type="checkbox"/>	68	For questions concerning completing the checklist, please contact Chris Tracy at (619) 446-5381 (INFO). (New Issue)
<b>CEQA</b>		
<u>Issue</u>		
<u>Cleared?</u>	<u>Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	69	Additional information is required before an environmental review can be completed. The issues identified above and in any other discipline review comments must be addressed before an environmental determination can be made on this project. A determination of a Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR) will be made based on the information provided in any subsequent submittals. (New Issue)

For questions regarding the 'LDR-Environmental' review, please call Christopher Tracy at (619) 446-5381. Project Nbr: 463835 / Cycle: 11





L64A-003A

## Review Information

<b>Cycle Type:</b> 11 Submitted (Multi-Discipline)	<b>Submitted:</b> 01/03/2017	Deemed Complete on 01/04/2017
<b>Reviewing Discipline:</b> LDR-Engineering Review	<b>Cycle Distributed:</b> 01/04/2017	
<b>Reviewer:</b> Canning, Jack (619) 446-5425 jcanning@sandiego.gov	<b>Assigned:</b> 01/06/2017	
	<b>Started:</b> 01/11/2017	
<b>Hours of Review:</b> 6.00	<b>Review Due:</b> 01/26/2017	
<b>Next Review Method:</b> Conditions	<b>Completed:</b> 01/13/2017	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 01/30/2017	

- . The review due date was changed to 01/26/2017 from 02/02/2017 per agreement with customer.
- . We request a 5th complete submittal for LDR-Engineering Review on this project as: Conditions.
- . The reviewer has requested more documents be submitted.
- . Your project still has 8 outstanding review issues with LDR-Engineering Review (8 of which are new issues).
- . Last month LDR-Engineering Review performed 64 reviews, 92.2% were on-time, and 41.1% were on projects at less than < 3 complete submittals.

## Drainage Study

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	30	Engineering Review has no further comments regarding the Drainage Study at this time.  (From Cycle 6)
<input type="checkbox"/>	54	Engineering Review supports the Drainage Study dated April 19, 2016 and will be subject to final review and approval by the City Engineer.  (New Issue) [Recommended]

## SWQMP

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	32	Revise Hydromodification Management Requirements Form I-3B Page 9. Section states the runoff is pumped to C Street and discharges into the San Diego Bay which is not correct. Project is not on C Street and does not discharge into the San Diego Bay. Revise accordingly.  (From Cycle 6)
<input checked="" type="checkbox"/>	47	Project has been designed as a No Infiltration Condition. Only if Geology determines the project is a No Infiltration Condition will the treatment control BMPs with impermeable liners be acceptable. Otherwise the BMP will have to be redesigned to the BMP Fact Sheets of the identified Infiltration Condition.  (From Cycle 7)
<input checked="" type="checkbox"/>	48	Project has been designed as a No Infiltration Condition, where the flow control for hydromodification management standard is the controlling design factor. This will require a determination of No Infiltration Condition by Development Services Geology Review.  (From Cycle 7)
<input checked="" type="checkbox"/>	49	If Geology determines the project is a Full Infiltration Condition, where the retention for pollutant control performance standard is the controlling design factor, the project will have to be redesigned accordingly. (continued below) (From Cycle 7)
<input checked="" type="checkbox"/>	50	If Geology determines the project is a Partial Infiltration Condition, where retention for pollutant control performance standard is the controlling design factor, project will have to be redesigned with maximum retention as feasible. The design will require an additional runoff storage area with outflow control for runoff to be discharged from the facility as needed to meet the flow control performance standards. Then design pollutant control needs for the portion of the storm water pollutant control DCV that could not be retained onsite.  (From Cycle 7)
<input checked="" type="checkbox"/>	51	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.1. Worksheet line 11 states surface ponding depth is 33 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (From Cycle 7)

For questions regarding the 'LDR-Engineering Review' review, please call Jack Canning at (619) 446-5425. Project Nbr: 463835 / Cycle: 11





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	52	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.2. Worksheet line 11 states surface ponding depth is 24 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (From Cycle 7)
<input checked="" type="checkbox"/>	53	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.3. Worksheet line 11 states surface ponding depth is 33 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (From Cycle 7)
<input type="checkbox"/>	55	Engineering Review supports the Technical Report dated December 15, 2016 and will be subject to final review and approval by the City Engineer, based on the Storm Water Standards in effect at the time of the construction. (New Issue) [Recommended]

**Engineering 3rd Review**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	42	Project has been designed as a No Infiltration Condition. Only if Geology determines the project is a No Infiltration Condition will the treatment control BMPs with impermeable liners be acceptable. Otherwise the BMP will have to be redesigned to the BMP Fact Sheets of the identified Infiltration Condition.  (From Cycle 7)
<input checked="" type="checkbox"/>	43	Project has been designed as a No Infiltration Condition, where the flow control for hydromodification management standard is the controlling design factor. This will require a determination of No Infiltration Condition by Development Services Geology Review.  (From Cycle 7)
<input checked="" type="checkbox"/>	44	If Geology determines the project is a Full Infiltration Condition, where the retention for pollutant control performance standard is the controlling design factor, the project will have to be redesigned accordingly. (continued below) (From Cycle 7)
<input checked="" type="checkbox"/>	45	If Geology determines the project is a Partial Infiltration Condition, where retention for pollutant control performance standard is the controlling design factor, project will have to be redesigned with maximum retention as feasible. The design will require an additional runoff storage area with outflow control for runoff to be discharged from the facility as needed to meet the flow control performance standards. Then design pollutant control needs for the portion of the storm water pollutant control DCV that could not be retained onsite.  (From Cycle 7)
<input checked="" type="checkbox"/>	46	Revise Grading Plan Sheet C1.2 Biofiltration Basin Detail. Detail shows and calls out surface ponding depth is 2 ft to 2.75 feet, which is not acceptable. Per BF-1 Biofiltration Fact Sheet Figure E-13-E.13-1 maximum ponding depth is 12 inches. Revise the detail and design accordingly.  (From Cycle 7)

**Conditions**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	56	All excavated material listed to be exported, shall be exported to a legal disposal site in accordance with the Standard Specifications for Public Works Construction (the "Green Book"), 2015 edition and Regional Supplement Amendments adopted by Regional Standards Committee.  (New Issue)
<input type="checkbox"/>	57	The drainage system proposed for this development, as shown on the site plan, is public and subject to approval by the City Engineer.  (New Issue)
<input type="checkbox"/>	58	All Public Improvements shall be constructed per approved Exhibit 'A' and satisfactory to the City Engineer.  (New Issue)
<input type="checkbox"/>	59	The project shall incorporate any construction Best Management Practices necessary to comply with Chapter 14, Article 2, Division 1 (Grading Regulations) of the SDMC, into the construction plans or specifications.  (New Issue)
<input type="checkbox"/>	60	Project shall prepare a Technical Report that will be subject to final review and approval by the City Engineer, based on the Storm Water Standards in effect at the time of the construction permit issuance.  (New Issue)

For questions regarding the 'LDR-Engineering Review' review, please call Jack Canning at (619) 446-5425. Project Nbr: 463835 / Cycle: 11





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	61	Project shall prepare a Water Pollution Control Plan (WPCP). The WPCP shall be prepared in accordance with the guidelines in Part 2 Construction BMP Standards Chapter 4 of the City's Storm Water Standards.

(New Issue)





L64A-003A

## Review Information

<b>Cycle Type:</b> 11 Submitted (Multi-Discipline)	<b>Submitted:</b> 01/03/2017	Deemed Complete on 01/04/2017
<b>Reviewing Discipline:</b> LDR-Transportation Dev	<b>Cycle Distributed:</b> 01/04/2017	
<b>Reviewer:</b> Islas, Karen (619) 446-5206 Kislas@sandiego.gov	<b>Assigned:</b> 01/05/2017	
	<b>Started:</b> 01/26/2017	
<b>Hours of Review:</b> 6.00	<b>Review Due:</b> 01/26/2017	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 01/26/2017	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 01/30/2017	

- . The review due date was changed to 01/26/2017 from 02/02/2017 per agreement with customer.
- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- . We request a 5th complete submittal for LDR-Transportation Dev on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 11 outstanding review issues with LDR-Transportation Dev (4 of which are new issues).
- . Last month LDR-Transportation Dev performed 37 reviews, 100.0% were on-time, and 36.7% were on projects at less than < 3 complete submittals.

### S-13021.02.06 - 1st Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	1	Project Description: Site Development Permit (CIP-2) to construct a new three story 12,347 sq. ft. fire Station within ESL containing sensitive biological resources on City owned land. The project is located within the RS-1-14 Zone, MHPA, FAA-Miramar, and Council District 1.  (From Cycle 2)
<input type="checkbox"/>	4	Show proposed signal warning system at Nobel Dr. on site plan.  (From Cycle 2)

### S-13021.02.06 - 2nd Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	13	Traffic Analysis: Comments on the traffic analysis memo dated 04/20/16 were sent to the DPM, EAS, and the applicant's traffic engineer on 06/03/16.  Major issues include: - Add explanation for how 20% peak AM/PM was determined. (From Cycle 6)
<input type="checkbox"/>	14	In response to Issue #4 proposed warning signal, it is mentioned in the Traffic Memo dated 04/20/2016 - the installation of a new traffic signal is recommended on Nobel Drive to stop eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. Please show on Site Plan Sheet A1.0, the new proposed traffic signal. (From Cycle 6)
<input type="checkbox"/>	16	Median-cut/Driveway:  In accordance with LDC Table 142-05M, the maximum width for one way circulation outside of the parking impact overlay zone is 20 feet. Please revise plan to reflect regulation and demonstrate why median break is not narrower. (From Cycle 6)

### S-13021.02.06 - 3rd Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	22	Traffic Analysis Memo dated 06/14/16:  Please provide additional information on why the trip generation for the incidents assumes that 2 of the 11 average daily calls would occur in AM/PM peak hours? (From Cycle 7)
<input type="checkbox"/>	21	In response to Issue #4 & #14, proposed warning signal, it is mentioned in the Traffic Memo dated 04/20/2016 - the installation of a new traffic signal is recommended on Nobel Drive to stop eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. Please show on Site Plan Sheet A1.0, the new proposed traffic signal. (From Cycle 7)

For questions regarding the 'LDR-Transportation Dev' review, please call Karen Islas at (619) 446-5206. Project Nbr: 463835 / Cycle: 11





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	23	Median-cut:  Based on Attachment 12 of Traffic Analysis Memo dated 06/14/16 & Sheet A1.10, the fire truck would be perpendicular to the roadway and it will not be sweeping; therefore, the additional break in the median does not seem necessary. Please revise site plan. (From Cycle 7)
<input checked="" type="checkbox"/>	19	Parking:  Please add note on site plan: "parking spaces east of apparatus bay should be signed as Employee Only since they cannot be accessed by the public" (From Cycle 7)
<input checked="" type="checkbox"/>	24	Additional Comments (information only, no action required):  Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles. (From Cycle 7)

**Draft Permit Conditions**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	20	Parking spaces east of apparatus bay should be signed as Employee Only since they cannot be accessed by the public. (From Cycle 7)

**S-13021.02.06 - 4th Review**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	26	In response to Issue #4, #14, & #21, proposed warning signal/signal system; it is mentioned in the Traffic Memo dated 10/26/2016 - "the installation of a new traffic signal is recommended on Nobel Dr to stop eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. A signal warrant is not necessary or required since the purpose of the signal is for emergency vehicles only..." (New Issue)
<input type="checkbox"/>	27	(continued) "...when a fire truck exists the driveway onto Nobel Drive, the Emergency Vehicle Preemption Equipment at the driveway signal would control the signal at Nobel Dr @ Shoreline Dr allowing only westbound movements to be green. The two signals would be coordinated due to the closely spaced intersections"  How westbound traffic would be stopped to allow emergency vehicles turn left onto Nobel Drive? Please explain.
<input type="checkbox"/>	28	In addition, Fire Station No. 45 in Mission Valley has a traffic signal at the driveway. (New Issue)  Additional Comments (information only, no action required):  Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles. (New Issue)
<input type="checkbox"/>	25	Minor Revision:  Site Plan discrepancy - Drawing 08-D or Sheet 09-D. (New Issue)

For questions regarding the 'LDR-Transportation Dev' review, please call Karen Islas at (619) 446-5206. Project Nbr: 463835 / Cycle: 11





L64A-003A

## Review Information

<b>Cycle Type:</b> 11 Submitted (Multi-Discipline)	<b>Submitted:</b> 01/03/2017	Deemed Complete on 01/04/2017
<b>Reviewing Discipline:</b> LDR-Geology	<b>Cycle Distributed:</b> 01/04/2017	
<b>Reviewer:</b> Mills, Kreg (619) 446-5295 Kmills@sandiego.gov	<b>Assigned:</b> 01/04/2017	
	<b>Started:</b> 01/26/2017	
<b>Hours of Review:</b> 2.50	<b>Review Due:</b> 01/26/2017	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 01/27/2017	<b>COMPLETED LATE</b>
	<b>Closed:</b> 01/30/2017	

- . The review due date was changed to 01/26/2017 from 02/02/2017 per agreement with customer.
- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- . We request a 5th complete submittal for LDR-Geology on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 8 outstanding review issues with LDR-Geology (7 of which are new issues).
- . Last month LDR-Geology performed 88 reviews, 80.7% were on-time, and 67.6% were on projects at less than < 3 complete submittals.

### 463835-2 (2/3/20126)

#### COMMENTS:

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	5	The project's geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level.  (From Cycle 2)
<input type="checkbox"/>	6	According the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 54, indicating potential slope instability. The project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion.  (From Cycle 2)

### 463835-6 (6/3/2016)

#### COMMENTS:

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	11	The previous review comments that have not been cleared remain applicable.  (From Cycle 6)

### 463835-7 (9/29/2016)

#### COMMENTS:

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	14	The previous review comments that have not been cleared remain applicable.  (From Cycle 7)
<input checked="" type="checkbox"/>	15	This proposed development is a Priority Development Project (PDP). The project's geotechnical consultant must submit an addendum geotechnical report that provides the information required in the Storm Water Standards, Part 1, BMP Design Manual ( <a href="https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf">https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf</a> ) and Appendix F of the City's Guidelines for Geotechnical Reports.  (From Cycle 7)

### 463835-11 (1/26/2017)

#### REFERENCES:

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
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For questions regarding the 'LDR-Geology' review, please call Kreg Mills at (619) 446-5295. Project Nbr: 463835 / Cycle: 11





L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	16	Geologic Reconnaissance, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated May 29, 2015 (their project no. 107954001)  Geotechnical Evaluation, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated August 18, 2016  Response to Review Comments Geology Review of Geotechnical Evaluation, North University Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated December 16, 2016
		(New Issue)
<input checked="" type="checkbox"/>	17	Development Plans, Fire Station 50, prepared by Safdie Rabines Architects, undated
		(New Issue)

**COMMENTS:**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	18	The previous review comments that have not been cleared remain applicable.
		(New Issue)
<input type="checkbox"/>	19	The project's geotechnical consultant must submit an addendum geotechnical report or update letter that specifically addresses the proposed development plans for the purposes of environmental review and the following:
		(New Issue)
<input type="checkbox"/>	20	As previously requested, and for the purposes of environmental review, the geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level.
		(New Issue)
<input type="checkbox"/>	21	As previously requested, the project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion.
		(New Issue)

**NOTE:**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	22	LDR-Engineering has indicated this project has met the stormwater volume reduction requirements obviating a Geology review of infiltration feasibility for the discretionary phase of this project. LDR-Geology review of responses to comments regarding stormwater infiltration or the submitted Worksheet C.4-1 not included in the discretionary review.
		(New Issue)



**EXHIBIT J**

**PRIORITY DEVELOPMENT PROJECT (PDP) STORM WATER QUALITY MANAGEMENT PLAN  
(SWQMP) AND STORM WATER REQUIREMENTS APPLICABILITY CHECKLIST  
DS-560**



The City of San Diego

**PRIORITY DEVELOPMENT PROJECT (PDP)  
STORM WATER QUALITY MANAGEMENT  
PLAN (SWQMP) FOR**

**Fire Station 50**

**PTS No. 463835**

**ENGINEER OF WORK:**



---

Antony K. Christensen, RCE 54021  
Provide Wet Signature and Stamp Above  
Line

**PREPARED FOR:**

CITY OF SAN DIEGO  
525 B STREET, SUITE 750, MS 908A  
SAN DIEGO, CA 92101  
619.533.7462  
(Jasiah Neff)  
[jneff@sandiego.gov](mailto:jneff@sandiego.gov)

**PREPARED BY:**

---

Christensen Engineering & Surveying  
7888 Silverton Avenue, Suite "J"  
San Diego, CA 92126  
858-454-7600

**DATE:**

**April 18, 2016**  
**Revised August 18, 2016**  
**Revised December 15, 2016**

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Approved by: City of San Diego

Date

## **TABLE OF CONTENTS**

- Acronyms
- Certification Page
- Submittal Record
- Project Vicinity Map
- FORM DS-560: Storm Water Applicability Checklist
- FORM I-1: Applicability of Permanent, Post-Construction Storm Water BMP Requirements
- FORM I-3B: Site Information Checklist for PDPs
- FORM I-4: Source Control BMP Checklist for All Development Projects
- FORM I-5: Site Design BMP Checklist for All Development Projects
- FORM I-6: Summary of PDP Structural BMPs
- FORM DS-563: Permanent BMP Construction, Self Certification Form
- Attachment 1: Backup for PDP Pollutant Control BMPs
  - Attachment 1a: DMA Exhibit
  - Attachment 1b: Tabular Summary of DMAs and Design Capture Volume Calculations
  - Attachment 1c: Harvest and Use Feasibility Screening (when applicable)
  - Attachment 1d: Categorization of Infiltration Feasibility Condition (when applicable)
  - Attachment 1e: Pollutant Control BMP Design Worksheets / Calculations
- Attachment 2: Backup for PDP Hydromodification Control Measures
  - Attachment 2a: Hydromodification Management Exhibit
  - Attachment 2b: Management of Critical Coarse Sediment Yield Areas
  - Attachment 2c: Geomorphic Assessment of Receiving Channels
  - Attachment 2d: Flow Control Facility Design
- Attachment 3: Structural BMP Maintenance Plan
  - Attachment 3a: Structural BMP Maintenance Thresholds and Actions
  - Attachment 3b: Draft Maintenance Agreement (when applicable)
- Attachment 4: Copy of Plan Sheets Showing Permanent Storm Water BMPs
- Attachment 5: Project's Drainage Report
- Attachment 6: Project's Geotechnical and Groundwater Investigation Report

## ACRONYMS

APN	Assessor's Parcel Number
ASBS	Area of Special Biological Significance
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CGP	Construction General Permit
DCV	Design Capture Volume
DMA	Drainage Management Areas
ESA	Environmentally Sensitive Area
GLU	Geomorphic Landscape Unit
GW	Ground Water
HMP	Hydromodification Management Plan
HSG	Hydrologic Soil Group
HU	Harvest and Use
INF	Infiltration
LID	Low Impact Development
LUP	Linear Underground/Overhead Projects
MS4	Municipal Separate Storm Sewer System
N/A	Not Applicable
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PDP	Priority Development Project
PE	Professional Engineer
POC	Pollutant of Concern
SC	Source Control
SD	Site Design
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SWPPP	Stormwater Pollutant Protection Plan
SWQMP	Storm Water Quality Management Plan
TMDL	Total Maximum Daily Load
WMAA	Watershed Management Area Analysis
WPCP	Water Pollution Control Program
WQIP	Water Quality Improvement Plan

## CERTIFICATION PAGE

**Project Name: Fire Station 50**  
**Permit Application Number: PTS No. 463835**

I hereby declare that I am the Engineer in Responsible Charge of design of storm water BMPs for this project, and that I have exercised responsible charge over the design of the project as defined in Section 6703 of the Business and Professions Code, and that the design is consistent with the requirements of the Storm Water Standards, which is based on the requirements of SDRWQCB Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100 (MS4 Permit).

I have read and understand that the City Engineer has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the Storm Water Standards. I certify that this PDP SWQMP has been completed to the best of my ability and accurately reflects the project being proposed and the applicable source control and site design BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this PDP SWQMP by the City Engineer is confined to a review and does not relieve me, as the Engineer in Responsible Charge of design of storm water BMPs for this project, of my responsibilities for project design.



---

Engineer of Work's Signature, PE Number & Expiration Date

---

Antony K. Christensen, RCE 54021

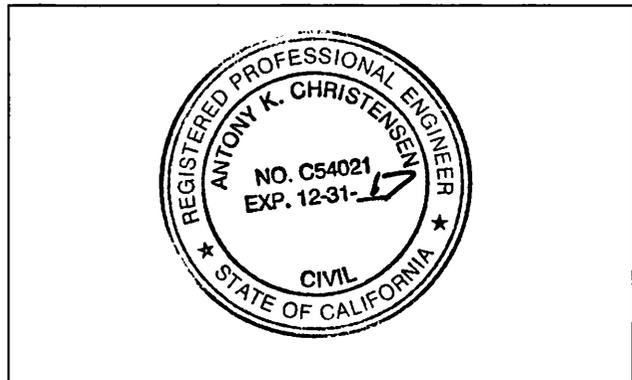
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Christensen Engineering & Surveying

12-15-16

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Date



## SUBMITTAL RECORD

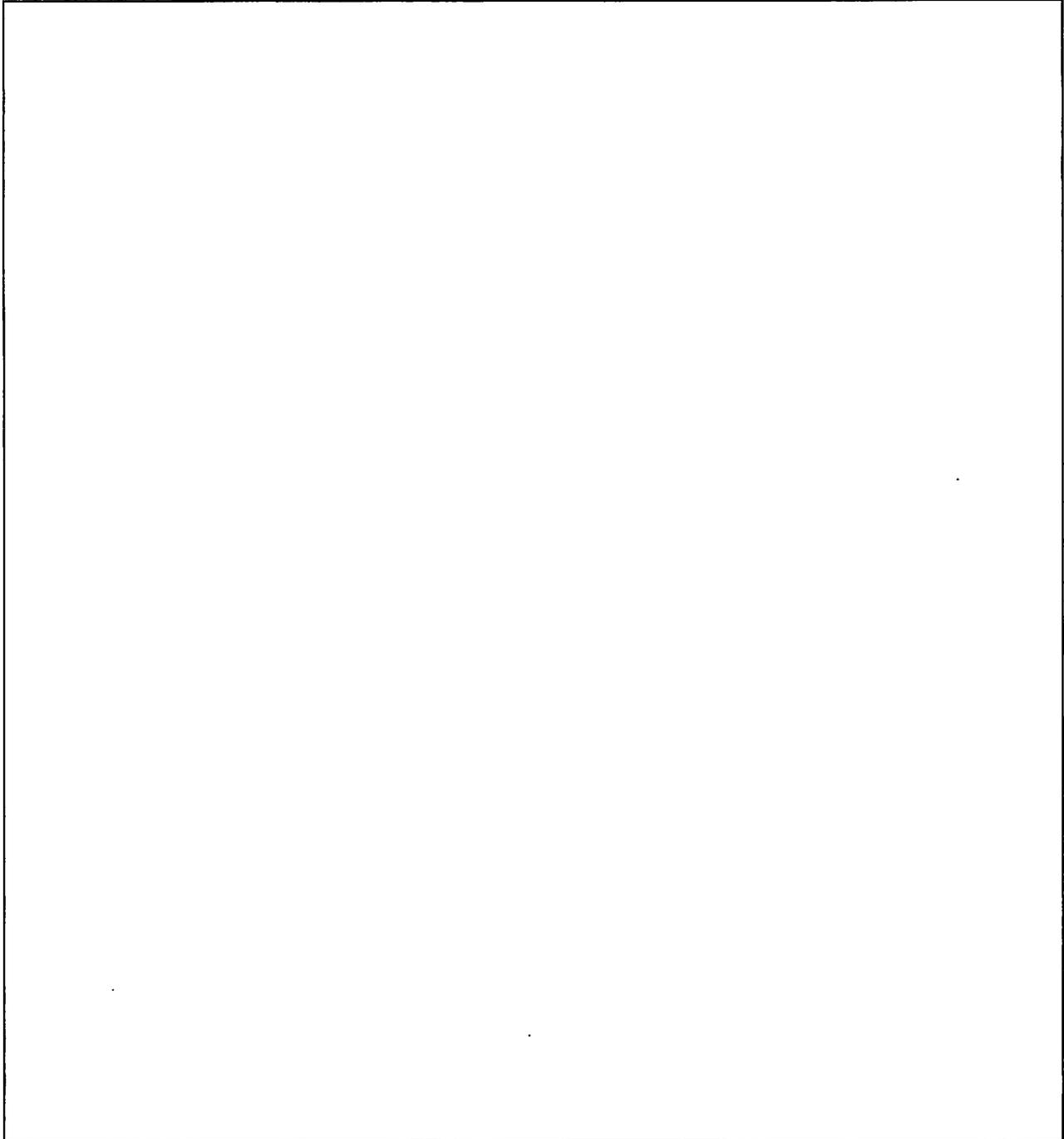
Use this Table to keep a record of submittals of this PDP SWQMP. Each time the PDP SWQMP is re-submitted, provide the date and status of the project. In last column indicate changes that have been made or indicate if response to plan check comments is included. When applicable, insert response to plan check comments.

Submittal Number	Date	Project Status	Changes
1		<input checked="" type="checkbox"/> Preliminary Design/Planning/CEQA <input type="checkbox"/> Final Design	Initial Submittal
2	08-18-16	<input checked="" type="checkbox"/> Preliminary Design/Planning/CEQA <input type="checkbox"/> Final Design	Address City comments
3	12-15-16	<input checked="" type="checkbox"/> Preliminary Design/Planning/CEQA <input type="checkbox"/> Final Design	Address City comments
4		<input type="checkbox"/> Preliminary Design/Planning/CEQA <input type="checkbox"/> Final Design	

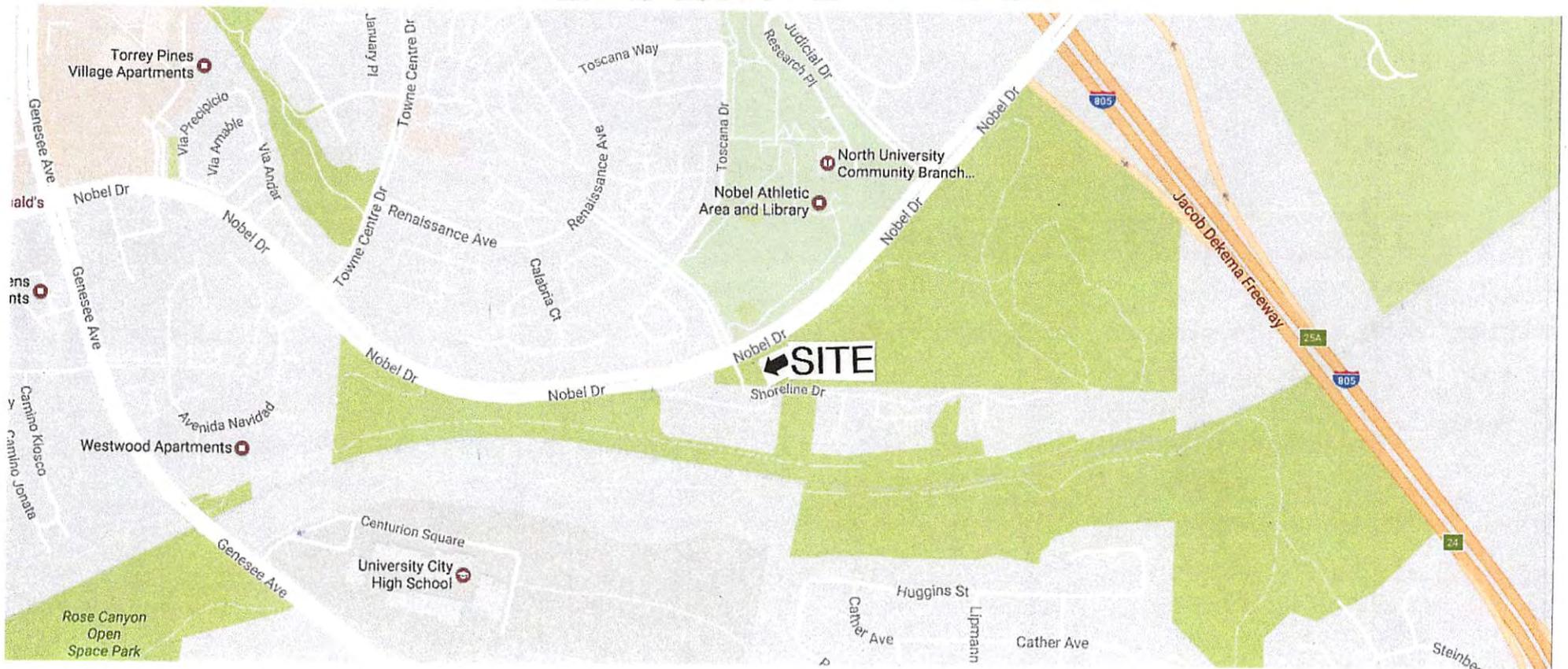
## PROJECT VICINITY MAP

**Project Name: Fire Station 50**

**Permit Application Number: PTS No. 463835**



# FIRE STATION 50 APN 345-010-03



## **STORM WATER REQUIREMENTS APPLICABILITY CHECKLIST**

Complete and attach DS-560 Form included in Appendix A.1



THE CITY OF SAN DIEGO

City of San Diego  
Development Services  
1222 First Ave., MS-302  
San Diego, CA 92101  
(619) 446-5000

# Storm Water Requirements Applicability Checklist

FORM  
**DS-560**  
FEBRUARY 2016

Project Address: <u>Nobel Drive at Shoreline Drive</u>	Project Number (for City Use Only): 463835
---	---

## SECTION 1. Construction Storm Water BMP Requirements:

All construction sites are required to implement construction BMPs in accordance with the performance standards in the [Storm Water Standards Manual](#). Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)<sup>1</sup>, which is administered by the State Water Resources Control Board.

**For all project complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.**

### PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

- Yes; SWPPP required, skip questions 2-4       No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity that results in ground disturbance and contact with storm water runoff?

- Yes; WPCP required, skip 3-4       No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

- Yes; WPCP required, skip 4       No; next question

4. Does the project only include the following Permit types listed below?

- Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
- Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
- Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

- Yes; no document required

Check one of the boxes to the right, and continue to PART B:

- If you checked "Yes" for question 1, a **SWPPP is REQUIRED. Continue to PART B**
- If you checked "No" for question 1, and checked "Yes" for question 2 or 3, a **WPCP is REQUIRED**. If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**
- If you checked "No" for all questions 1-3, and checked "Yes" for question 4 **PART B does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: [www.sandiego.gov/stormwater/regulations/index.shtml](http://www.sandiego.gov/stormwater/regulations/index.shtml)

**PART B: Determine Construction Site Priorit**

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a “high threat to water quality.” The City has aligned the local definition of “high threat to water quality” to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

**Complete PART B and continued to Section 2**

1.  **ASBS**  
a. Projects located in the ASBS watershed.
2.  **High Priority**  
a. Projects 1 acre or more determined to be Risk Level 2 or Risk Level 3 per the Construction General Permit and not located in the ASBS watershed.  
b. Projects 1 acre or more determined to be LUP Type 2 or LUP Type 3 per the Construction General Permit and not located in the ASBS watershed.
3.  **Medium Priority**  
a. Projects 1 acre or more but not subject to an ASBS or high priority designation.  
b. Projects determined to be Risk Level 1 or LUP Type 1 per the Construction General Permit and not located in the ASBS watershed.
4.  **Low Priority**  
a. Projects requiring a Water Pollution Control Plan but not subject to ASBS, high, or medium priority designation.

**SECTION 2. Permanent Storm Water BMP Requirements.**

Additional information for determining the requirements is found in the [Storm Water Standards Manual](#).

**PART C: Determine if Not Subject to Permanent Storm Water Requirements.**

Projects that are considered maintenance, or otherwise not categorized as “new development projects” or “redevelopment projects” according to the [Storm Water Standards Manual](#) are not subject to Permanent Storm Water BMPs.

**If “yes” is checked for any number in Part C, proceed to Part F and check “Not Subject to Permanent Storm Water BMP Requirements”.**

**If “no” is checked for all of the numbers in Part C continue to Part D.**

1. Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?  Yes  No
2. Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?  Yes  No
3. Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).  Yes  No

**PART D: PDP Exempt Requirements.**

**PDP Exempt projects are required to implement site design and source control BMPs.**

**If “yes” was checked for any questions in Part D, continue to Part F and check the box labeled “PDP Exempt.”**

**If “no” was checked for all questions in Part D, continue to Part E.**

1. Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:
  - Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;
  - Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;
  - Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City’s Storm Water Standards manual?

Yes; PDP exempt requirements apply                       No; next question
2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the [City’s Storm Water Standards Manual](#)?
 

Yes; PDP exempt requirements apply                       No; project not exempt. PDP requirements apply

**PART E: Determine if Project is a Priority Development Project (PDP).**

Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

**If “yes” is checked for any number in PART E, continue to PART F.**

**If “no” is checked for every number in PART E, continue to PART F and check the box labeled “Standard Development Project”.**

1. **New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.  Yes    No
2. **Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces on an existing site of 10,000 square feet or more of impervious surfaces.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.  Yes    No
3. **New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface.  Yes    No
4. **New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater.  Yes    No
5. **New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).**  Yes    No
6. **New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).  Yes    No

7. **New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).  Yes  No
8. **New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.  Yes  No
9. **New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.  Yes  No
10. **Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces of if they sheet flow to surrounding pervious surfaces.  Yes  No

**PART F: Select the appropriate category based on the outcomes of PART C through PART E.**

1. The project is **NOT SUBJECT TO STORM WATER REQUIREMENTS.**
2. The project is a **STANDARD DEVELOPMENT PROJECT.** Site design and source control BMP requirements apply. See the [Storm Water Standards Manual](#) for guidance.
3. The project is **PDP EXEMPT.** Site design and source control BMP requirements apply. See the [Storm Water Standards Manual](#) for guidance.
4. The project is a **PRIORITY DEVELOPMENT PROJECT.** Site design, source control, and structural pollutant control BMP requirements apply. See the [Storm Water Standards Manual](#) for guidance on determining if project requires a hydromodification plan management

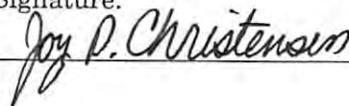
Name of Owner or Agent (Please Print):

Title:

Joy D. Christensen

Assistant Engineer

Signature:



Date:

April 23, 2016

Applicability of Permanent, Post-Construction Storm Water BMP Requirements		Form I-1
Project Identification		
Project Name: Fire Station 50		
Permit Application Number: PTS No. 463835		Date: April 18, 2016
Determination of Requirements		
<p>The purpose of this form is to identify permanent, post-construction requirements that apply to the project. This form serves as a short <u>summary</u> of applicable requirements, in some cases referencing separate forms that will serve as the backup for the determination of requirements.</p> <p>Answer each step below, starting with Step 1 and progressing through each step until reaching "Stop". Refer to Part 1 of Storm Water Standards sections and/or separate forms referenced in each step below.</p>		
Step	Answer	Progression
Step 1: Is the project a "development project"? See Section 1.3 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	<input checked="" type="checkbox"/> Yes	Go to Step 2.
	<input type="checkbox"/> No	Stop. Permanent BMP requirements do not apply. No SWQMP will be required. Provide discussion below.
Discussion / justification if the project is <u>not</u> a "development project" (e.g., the project includes <u>only</u> interior remodels within an existing building):		
Step 2: Is the project a Standard Project, Priority Development Project (PDP), or exception to PDP definitions? To answer this item, see Section 1.4 of the BMP Design Manual (Part 1 of Storm Water Standards) <u>in its entirety</u> for guidance, AND complete Storm Water Requirements Applicability Checklist.	<input type="checkbox"/> Standard Project	Stop. Standard Project requirements apply.
	<input checked="" type="checkbox"/> PDP	PDP requirements apply, including PDP SWQMP. Go to Step 3.
	<input type="checkbox"/> PDP Exempt	Stop. Standard Project requirements apply. Provide discussion and list any additional requirements below.
Discussion / justification, and additional requirements for exceptions to PDP definitions, if applicable:		

Form I-1 Page 2

Step	Answer	Progression
Step 3. Is the project subject to earlier PDP requirements due to a prior lawful approval? See Section 1.10 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	<input type="checkbox"/> Yes	Consult the City Engineer to determine requirements. Provide discussion and identify requirements below. Go to Step 4.
	<input checked="" type="checkbox"/> No	BMP Design Manual PDP requirements apply. Go to Step 4.
Discussion / justification of prior lawful approval, and identify requirements ( <u>not required if prior lawful approval does not apply</u> ):		
Step 4. Do hydromodification control requirements apply? See Section 1.6 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	<input checked="" type="checkbox"/> Yes	PDP structural BMPs required for pollutant control (Chapter 5) and hydromodification control (Chapter 6). Go to Step 5.
	<input type="checkbox"/> No	Stop. PDP structural BMPs required for pollutant control (Chapter 5) only. Provide brief discussion of exemption to hydromodification control below.
Discussion / justification if hydromodification control requirements do <u>not</u> apply:		
Step 5. Does protection of critical coarse sediment yield areas apply? See Section 6.2 of the BMP Design Manual (Part 1 of Storm Water Standards) for guidance.	<input type="checkbox"/> Yes	Management measures required for protection of critical coarse sediment yield areas (Chapter 6.2). Stop.
	<input checked="" type="checkbox"/> No	Management measures not required for protection of critical coarse sediment yield areas. Provide brief discussion below. Stop.
Discussion / justification if protection of critical coarse sediment yield areas does <u>not</u> apply: The project site but not the project area include a potential critical coarse sediment yield area, based on Google Earth kmz file		

Site Information Checklist For PDPs		Form I-3B
Project Summary Information		
Project Name	Fire Station 50	
Project Address	Noble Drive at Shoreline Drive San Diego, CA	
Assessor's Parcel Number(s) (APN(s))	345-010-03-00	
Permit Application Number	PTS NO. 463835	
Project Watershed	Select One: <input type="checkbox"/> San Dieguito River <input checked="" type="checkbox"/> Penasquitos <input type="checkbox"/> Mission Bay <input type="checkbox"/> San Diego River <input type="checkbox"/> San Diego Bay <input type="checkbox"/> Tijuana River	
Hydrologic subarea name with Numeric Identifier up to two decimal places (9XX.XX)	Scripps Hydrologic Area (906.3)	
Project Area (total area of Assessor's Parcel(s) associated with the project or total area of the right-of-way)	<u>34.1</u> Acres ( _____ Square Feet)	
Area to be disturbed by the project (Project Footprint)	<u>0.914</u> Acres ( _____ Square Feet)	
Project Proposed Impervious Area (subset of Project Footprint)	<u>0.473</u> Acres ( _____ Square Feet)	
Project Proposed Pervious Area (subset of Project Footprint)	<u>0.441</u> Acres ( _____ Square Feet)	
Note: Proposed Impervious Area + Proposed Pervious Area = Area to be Disturbed by the Project. This may be less than the Project Area.		
The proposed increase or decrease in impervious area in the proposed condition as compared to the pre-project condition.	<u>(0.473 Acre increase)</u> _____ %	

Description of Existing Site Condition and Drainage Patterns

Current Status of the Site (select all that apply):

- Existing development
- Previously graded but not built out
- Agricultural or other non-impervious use
- Vacant, undeveloped/natural

Description / Additional Information:

Site has had previous grading, including the construction of sewer mains and storm drains and pervious easement access area.

Existing Land Cover Includes (select all that apply):

- Vegetative Cover
- Non-Vegetated Pervious Areas
- Impervious Areas

Description / Additional Information:

Underlying Soil belongs to Hydrologic Soil Group (select all that apply):

- NRCS Type A
- NRCS Type B
- NRCS Type C
- NRCS Type D

Approximate Depth to Groundwater (GW):

- GW Depth < 5 feet
- 5 feet < GW Depth < 10 feet
- 10 feet < GW Depth < 20 feet
- GW Depth > 20 feet

Existing Natural Hydrologic Features (select all that apply):

- Watercourses
- Seeps
- Springs
- Wetlands
- None

Description / Additional Information:

Public storm drain inlet exists onsite.

## Description of Existing Site Topography and Drainage:

How is storm water runoff conveyed from the site? At a minimum, this description should answer:

1. Whether existing drainage conveyance is natural or urban;
2. If runoff from offsite is conveyed through the site? If yes, quantification of all offsite drainage areas, design flows, and locations where offsite flows enter the project site and summarize how such flows are conveyed through the site;
3. Provide details regarding existing project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, and natural and constructed channels;
4. Identify all discharge locations from the existing project along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide summary of the pre-project drainage areas and design flows to each of the existing runoff discharge locations.

## Description / Additional Information:

This project involves the construction of Fire Station 50 for the City of San Diego on a vacant portion of Pueblo Lot 1304 and being a portion of Assessor Parcel Number 345-010-03-00. The proposed fire station site is shown on the attached drainage area maps as the proposed "lot". The project includes the construction of the fire station and appurtenances, including walkways, driveways, pedestrian ramp, drainage facilities and landscape and irrigation, together with biofiltration basins to treat and detain runoff from impervious surfaces, onsite.

Appendix "A" of the drainage study contains drainage area maps from a topographic survey by Christensen Engineering and Surveying, prepared in April and May of 2015. In its existing state runoff from the site flows to the south, southwest and southeast, where it is picked up by a storm drain at a headwall along the southerly boundary APN 345-010-03-00 as shown on City of San Diego drawing 22324-11-D. Additional site runoff flows onto Shoreline Drive, westerly and southwesterly of the site and into a curb inlet within that cul-de-sac, shown on the same drawing. A small area of runoff from the site flows onto Nobel Drive and to a curb inlet at the southeast intersection of Nobel Drive and Shoreline Drive, as shown on drawing 29532-21-D. A small area of offsite runoff flows onto the site and is conveyed to Nobel Drive. Following construction the same general pattern of runoff and its collection continues. The impervious surface runoff is conveyed to three flow through planters, where it is treated and detained before being conveyed southerly to the aforementioned storm drain and headwall. The pervious surface runoff will flow to two curb outlets in Shoreline Drive and a portion of the site runoff and offsite runoff conveyed to the site will continue to flow onto Nobel Drive.

Runoff to the public storm drain system will increase by 0.36 cfs total for the entire site (1.94 cfs -1.58 cfs) with an increase to the drain and headwall southerly of the site of 0.40 cfs. The existing drain was checked for adequacy and found to be capable of conveying the additional runoff. There will be no adverse effect to the public storm drain.

A detailed description of the drainage patterns and flows are discussed and demonstrated in the Drainage Study and were developed using the City of San Diego Drainage Design A detailed description of the drainage patterns and flows are discussed and demonstrated in the Drainage Study and were developed using the City of San Diego Drainage Design Manual rational method. See attachment "D".

Description of Proposed Site Development and Drainage Patterns

Project Description / Proposed Land Use and/or Activities:

The project site is currently developed with a public storm drain and has been partially graded when the adjacent streets were constructed. A public Fire Station and appurtenances is proposed.

List/describe proposed impervious features of the project (e.g., buildings, roadways, parking lots, courtyards, athletic courts, other impervious features):

The project includes the construction of buildings with walkways, parking areas and driveways .

List/describe proposed pervious features of the project (e.g., landscape areas):

This project includes landscaped areas interspersed amongst the impervious areas.

Does the project include grading and changes to site topography?

Yes

No

Description / Additional Information:

Grading will be employed to improve the site for structures, parking and driveways.

Does the project include changes to site drainage (e.g., installation of new storm water conveyance systems)?

Yes

No

If yes, provide details regarding the proposed project site drainage conveyance network, including storm drains, concrete channels, swales, detention facilities, storm water treatment facilities, natural and constructed channels, and the method for conveying offsite flows through or around the proposed project site. Identify all discharge locations from the proposed project site along with a summary of the conveyance system size and capacity for each of the discharge locations. Provide a summary of pre and post-project drainage areas and design flows to each of the runoff discharge locations. Reference the drainage study for detailed calculations.

Description / Additional Information:

The project will include the construction of a drain from the site to an existing public storm drain headwall and inlet.

In its existing state runoff from the site flows to the south, southwest and southeast, where it is picked up by a storm drain at a headwall along the southerly boundary APN 345-010-03-00 as shown on City of San Diego drawing 22324-11-D. Additional site runoff flows onto Shoreline Drive, westerly and southwesterly of the site and into a curb inlet within that cul-de-sac, shown on the same drawing. A small area of runoff from the site flows onto Nobel Drive and to a curb inlet at the southeast intersection of Nobel Drive and Shoreline Drive, as shown on drawing 29532-21-D. A small area of offsite runoff flows onto the site and is conveyed to Nobel Drive. Following construction the same general pattern of runoff and its collection continues. The impervious surface runoff is conveyed to three flow through planters, where it is treated and detained before being conveyed southerly to the aforementioned storm drain and headwall. The pervious surface runoff will flow to two curb outlets in Shoreline Drive and a portion of the site runoff and offsite runoff conveyed to the site will continue to flow onto Nobel Drive.

Runoff to the public storm drain system will increase by 0.36 cfs total for the entire site (2.00 cfs - 1.64 cfs) with an increase to the drain and headwall southerly of the site of 0.40 cfs. The existing drain was checked for adequacy and found to be capable of conveying the additional runoff. There will be no adverse effect to the public storm drain.

Identify whether any of the following features, activities, and/or pollutant source areas will be present (select all that apply):

- On-site storm drain inlets
- Interior floor drains and elevator shaft sump pumps
- Interior parking garages
- Need for future indoor & structural pest control
- Landscape/Outdoor Pesticide Use
- Pools, spas, ponds, decorative fountains, and other water features
- Food service
- Refuse areas
- Industrial processes
- Outdoor storage of equipment or materials
- Vehicle and Equipment Cleaning
- Vehicle/Equipment Repair and Maintenance
- Fuel Dispensing Areas
- Loading Docks
- Fire Sprinkler Test Water
- Miscellaneous Drain or Wash Water
- Plazas, sidewalks, and parking lots
- Large Trash Generating Facilities
- Animal Facilities
- Plant Nurseries and Garden Centers
- Automotive-related Uses

Description / Additional Information:

There will be onsite area drains, vehicle washing and fueling and covered refuse area.

Identification and Narrative of Receiving Water

Narrative describing flow path from discharge location(s), through urban storm conveyance system, to receiving creeks, rivers, and lagoons and ultimate discharge location to Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable)

According to the California 2010 303d list published by the San Diego Regional Water Quality Control Board of impaired water bodies, the nearest impaired water body is the Pacific Ocean, impaired by indicator bacteria. The Pacific Ocean is located approximately 3.1 miles westerly of the project and the project does not directly discharge into the Pacific Ocean.. Runoff is comingled with that from the public storm drains.

Provide a summary of all beneficial uses of receiving waters downstream of the project discharge locations.

Surface water beneficial uses include industrial water supply, water contact recreational activities, non-contact recreational activities, warm freshwater habitat and wildlife habitat. Groundwater beneficial uses include municipal, agricultural and industrial water supply.

Identify all ASBS (areas of special biological significance) receiving waters downstream of the project discharge locations.

None exist downstream of this project.

Provide distance from project outfall location to impaired or sensitive receiving waters.

The Pacific Ocean is approximately 3.1 mile westerly of the project site.

Summarize information regarding the proximity of the permanent, post-construction storm water BMPs to the City's Multi-Habitat Planning Area and environmentally sensitive lands

The project is located within the MHPA and ESL area as designated by the City of San Diego. Mitigation is being proposed by the project environmental consultant.

**Form I-3B Page 8 of 11**

**Identification of Receiving Water Pollutants of Concern**

List any 303(d) impaired water bodies within the path of storm water from the project site to the Pacific Ocean (or bay, lagoon, lake or reservoir, as applicable), identify the pollutant(s)/stressor(s) causing impairment, and identify any TMDLs and/or Highest Priority Pollutants from the WQIP for the impaired water bodies:

303(d) Impaired Water Body	Pollutant(s)/Stressor(s)	TMDLs/ WQIP Highest Priority Pollutant
Pacific Ocean	Bacteria	Bacteria

**Identification of Project Site Pollutants\***

\*Identification of project site pollutants is only required if flow-thru treatment BMPs are implemented onsite in lieu of retention or biofiltration BMPs (note the project must also participate in an alternative compliance program unless prior lawful approval to meet earlier PDP requirements is demonstrated)

Identify pollutants anticipated from the project site based on all proposed use(s) of the site (see BMP Design Manual (Part 1 of Storm Water Standards) Appendix B.6):

Pollutant	Not Applicable to the Project Site	Anticipated from the Project Site	Also a Receiving Water Pollutant of Concern
Sediment			
Nutrients			
Heavy Metals			
Organic Compounds			
Trash & Debris			
Oxygen Demanding Substances			
Oil & Grease			
Bacteria & Viruses			
Pesticides			

Hydromodification Management Requirements

Do hydromodification management requirements apply (see Section 1.6 of the BMP Design Manual)?

- Yes, hydromodification management flow control structural BMPs required.
- No, the project will discharge runoff directly to existing underground storm drains discharging directly to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
- No, the project will discharge runoff directly to conveyance channels whose bed and bank are concrete-lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
- No, the project will discharge runoff directly to an area identified as appropriate for an exemption by the WMAA for the watershed in which the project resides.

Description / Additional Information (to be provided if a 'No' answer has been selected above):

The impervious surface runoff from the project site is pumped to "C" Street where it flows along the public street to a curb inlet and via a public drain to San Diego Bay.

Critical Coarse Sediment Yield Areas\*

\*This Section only required if hydromodification management requirements apply

Based on Section 6.2 and Appendix H does CCSYA exist on the project footprint or in the upstream area draining through the project footprint?

- Yes
- No

Discussion / Additional Information:

Flow Control for Post-Project Runoff\*

\*This Section only required if hydromodification management requirements apply

List and describe point(s) of compliance (POCs) for flow control for hydromodification management (see Section 6.3.1). For each POC, provide a POC identification name or number correlating to the project's HMP Exhibit and a receiving channel identification name or number correlating to the project's HMP Exhibit.

The point of compliance for the project is at the same location (outlet to the existing public storm drain onsite). Each of the three bio-retention basins outlet to this Point of Compliance.

Has a geomorphic assessment been performed for the receiving channel(s)?

- No, the low flow threshold is 0.1Q2 (default low flow threshold)
- Yes, the result is the low flow threshold is 0.1Q2
- Yes, the result is the low flow threshold is 0.3Q2
- Yes, the result is the low flow threshold is 0.5Q2

If a geomorphic assessment has been performed, provide title, date, and preparer:

Discussion / Additional Information: (optional)

Other Site Requirements and Constraints

When applicable, list other site requirements or constraints that will influence storm water management design, such as zoning requirements including setbacks and open space, or local codes governing minimum street width, sidewalk construction, allowable pavement types, and drainage requirements.

None.

Optional Additional Information or Continuation of Previous Sections As Needed

This space provided for additional information or continuation of information from previous sections as needed.

**Source Control BMP Checklist  
for All Development Projects**

Form I-4

**Source Control BMPs**

All development projects must implement source control BMPs SC-1 through SC-6 where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual (Part 1 of the Storm Water Standards) for information to implement source control BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided.

Source Control Requirement	Applied?		
SC-1 Prevention of Illicit Discharges into the MS4	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SC-1 not implemented:			
SC-2 Storm Drain Stenciling or Signage	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SC-2 not implemented: The existing curb inlets fronting the site will be stenciled if not already done so. No other drains will exist that will require stenciling.			
SC-3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Discussion / justification if SC-3 not implemented:  No materials will be stored outside the buildings and there is no run-on to the site except that which flows over pervious surfaces.			
SC-4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Discussion / justification if SC-4 not implemented:  No materials will be stored outside the buildings			
SC-5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SC-5 not implemented:  Trash will be contained in an area with a roof to protect it from rain impacting the refuse area.			

Form I-4 Page 2 of 2

Source Control Requirement	Applied?		
SC-6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
On-site storm drain inlets	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Interior floor drains and elevator shaft sump pumps	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Interior parking garages	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Need for future indoor & structural pest control	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Landscape/Outdoor Pesticide Use	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Pools, spas, ponds, decorative fountains, and other water features	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Food service	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Refuse areas	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Industrial processes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Outdoor storage of equipment or materials	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Vehicle/Equipment Repair and Maintenance	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Fuel Dispensing Areas	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Loading Docks	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Fire Sprinkler Test Water	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Miscellaneous Drain or Wash Water	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Plazas, sidewalks, and parking lots	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
SC-6A: Large Trash Generating Facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
SC-6B: Animal Facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
SC-6C: Plant Nurseries and Garden Centers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
SC-6D: Automotive-related Uses	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<p>Discussion / justification if SC-6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for <u>all</u> "No" answers shown above.</p>			

Site Design BMP Checklist  
for All Development Projects

Form I-5

**Site Design BMPs**

All development projects must implement site design BMPs SD-1 through SD-8 where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual (Part 1 of Storm Water Standards) for information to implement site design BMPs shown in this checklist.

Answer each category below pursuant to the following.

- "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required.
- "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided.
- "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided.

A site map with implemented site design BMPs must be included at the end of this checklist.

Site Design Requirement	Applied?		
SD-1 Maintain Natural Drainage Pathways and Hydrologic Features	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Discussion / justification if SD-1 not implemented:			
No natural drainage pathways exist in the project area. The basin southerly of the site conveys public storm drain runoff.			
1-1 Are existing natural drainage pathways and hydrologic features mapped on the site map?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
1-2 Are trees implemented? If yes, are they shown on the site map?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
1-3 Implemented trees meet the design criteria in SD-1 Fact Sheet (e.g. soil volume, maximum credit, etc.)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
1-4 Is tree credit volume calculated using Appendix B.2.2.1 and SD-1 Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
SD-2 Have natural areas, soils and vegetation been conserved?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-2 not implemented:			
The majority of the project site will not be disturbed, thereby conserving the natural vegetation.			

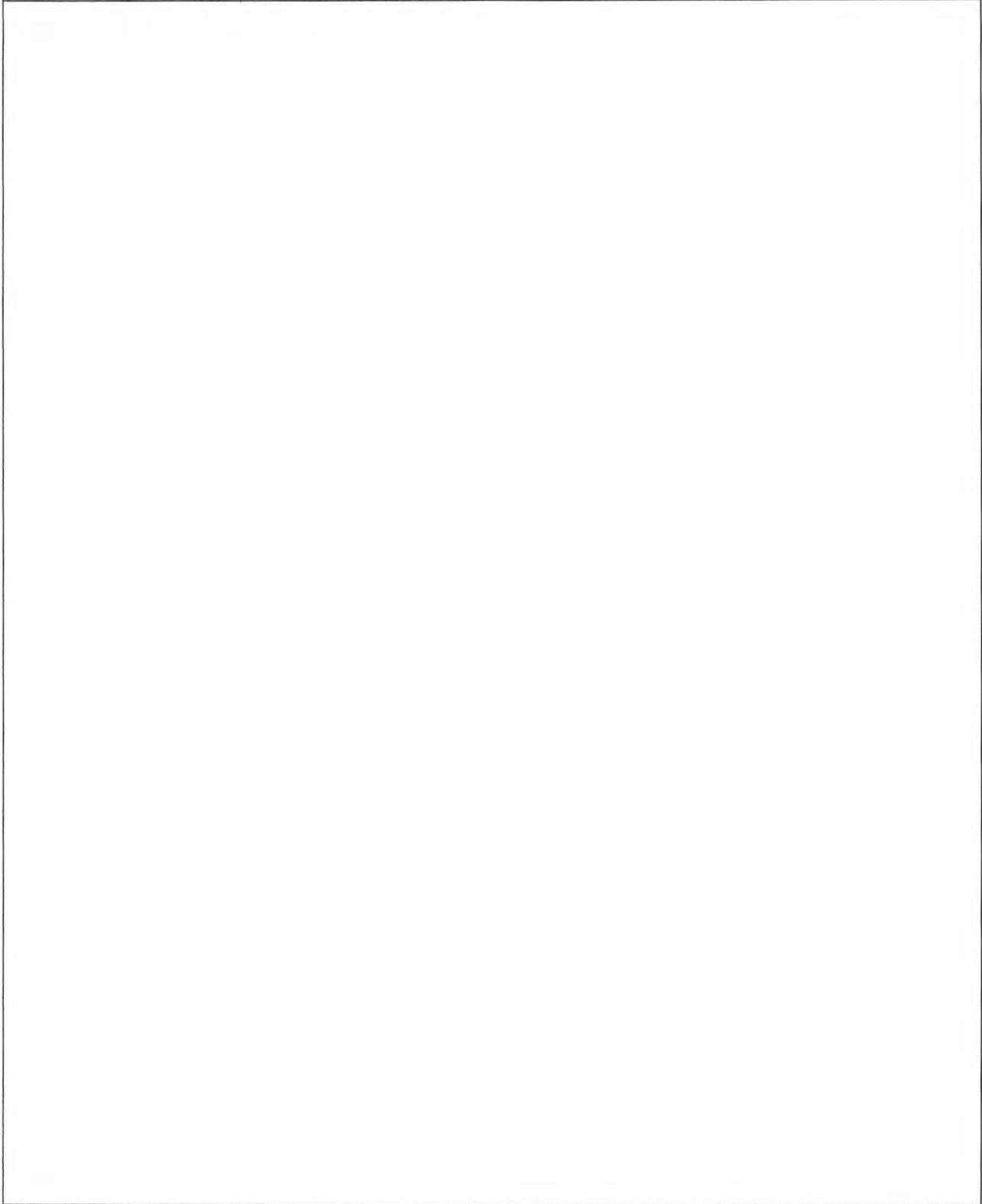
Form I-5 Page 2 of 4

Site Design Requirement	Applied?		
SD-3 Minimize Impervious Area	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p>Discussion / justification if SD-3 not implemented:</p> <p>The site uses areas of landscaping to decrease impervious surface area. The minimum size of parking is used to develop the site. Pervious surfaces are used for walkways but are impractical for driveways to be used by fire equipment.</p>			
SD-4 Minimize Soil Compaction	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p>Discussion / justification if SD-4 not implemented:</p>			
SD-5 Impervious Area Dispersion	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p>Discussion / justification if SD-5 not implemented:</p>			
5-1 Is the pervious area receiving runoff from impervious area identified on the site map?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	N/A
5-2 Does the pervious area satisfy the design criteria in SD-5 Fact Sheet in Appendix E (e.g. maximum slope, minimum length, etc.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	N/A
5-3 Is impervious area dispersion credit volume calculated using Appendix B.2.1.1 and SD-5 Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Form I-5 Page 3 of 4

Site Design Requirement	Applied?		
SD-6 Runoff Collection	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-6 not implemented:			
6a-1 Are green roofs implemented in accordance with design criteria in SD-6A Fact Sheet? If yes, are they shown on the site map?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
6a-2 Is green roof credit volume calculated using Appendix B.2.1.2 and SD-6A Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
6b-1 Are permeable pavements implemented in accordance with design criteria in SD-6B Fact Sheet? If yes, are they shown on the site map?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
6b-2 Is permeable pavement credit volume calculated using Appendix B.2.1.3 and SD-6B Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
SD-7 Landscaping with Native or Drought Tolerant Species	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-7 not implemented:			
SD-8 Harvesting and Using Precipitation	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if SD-8 not implemented:  The landscape area does not afford an opportunity to use the minimum required volume of runoff to drawdown in 36 hrs based on criteria found in the Storm Water Manual.			
8-1 Are rain barrels implemented in accordance with design criteria in SD-8 Fact Sheet? If yes, are they shown on the site map?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
8-2 Is rain barrel credit volume calculated using Appendix B.2.2.2 and SD-8 Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Insert Site Map with all site design BMPs identified:



## PDP Structural BMPs

All PDPs must implement structural BMPs for storm water pollutant control (see Chapter 5 of the BMP Design Manual, Part 1 of Storm Water Standards). Selection of PDP structural BMPs for storm water pollutant control must be based on the selection process described in Chapter 5. PDPs subject to hydromodification management requirements must also implement structural BMPs for flow control for hydromodification management (see Chapter 6 of the BMP Design Manual). Both storm water pollutant control and flow control for hydromodification management can be achieved within the same structural BMP(s).

PDP structural BMPs must be verified by the City at the completion of construction. This includes requiring the project owner or project owner's representative to certify construction of the structural BMPs (complete Form DS-563). PDP structural BMPs must be maintained into perpetuity (see Chapter 7 of the BMP Design Manual).

Use this form to provide narrative description of the general strategy for structural BMP implementation at the project site in the box below. Then complete the PDP structural BMP summary information sheet (page 3 of this form) for each structural BMP within the project (copy the BMP summary information page as many times as needed to provide summary information for each individual structural BMP).

Describe the general strategy for structural BMP implementation at the site. This information must describe how the steps for selecting and designing storm water pollutant control BMPs presented in Section 5.1 of the BMP Design Manual were followed, and the results (type of BMPs selected). For projects requiring hydromodification flow control BMPs, indicate whether pollutant control and flow control BMPs are integrated or separate.

Infiltration could not be used onsite as recommended by the geotechnical consultant (see below). It was determined the site could be developed using lined biofiltration basins and they were sized using the information found in Appendix G using the SDHM program. In accordance with section B.5.2.2, achieving 92% of the average annual runoff treatment corresponds to the average capture achieved by implementing a BMP with 1.5 times the DCV and a drawdown time of 36 hours by using the SDHM continuous simulation.

Additionally, to meet City evaluation requirements as presented in the November 2016 Supplemental Guidance to the Storm Water Standards Manual, a feasibility infiltration rate for Type D Hydrologic Soil type of 0.05 in/hr was used to complete worksheet B.5-2 for each basin. Each basin was determined to be sized larger than that required by the sizing required for Volume Retention with hypothetical infiltration. Then each basin was again analyzed using Worksheet B.5-5 to determine if the volume retention requirement was met for the "No Infiltration" condition and was found to meet the "Performance Standard" for each basin. Worksheet 5.5-1 was completed for each basin to determine if they each met the Pollutant Removal Standard and they were each found to do so.

Therefore, each basin meets the pollutant treatment, volume retention and hydromodification requirements. All worksheets/reports cited about are attached.

The ponding depth is greater than 12" in each basin and approval was sought and obtained from Walter Geform, Deputy City Engineer for Storm Water, to allow for the greater ponding depth. The project will have the basins fenced with a locked gate to address safety issues. The surface drawdown time is less than 24 hours (see each SDHM report's last sheet that verifies the drawdown time to be less than 24 hours. Worksheet B.5-3 was used to evaluate the minimum area required to meet the clogging requirements and each basin was demonstrated to meet that requirement. See attached email from the Deputy City Engineer.

(Page reserved for continuation of description of general strategy for structural BMP implementation at the site)

(Continued from page 1)

Form I-6 Page 3 of X (Copy as many as needed)

Structural BMP Summary Information

Structural BMP ID No. IMP-1

Construction Plan Sheet No. Sheet A03

Type of structural BMP:

- Retention by harvest and use (HU-1)
- Retention by infiltration basin (INF-1)
- Retention by bioretention (INF-2)
- Retention by permeable pavement (INF-3)
- Partial retention by biofiltration with partial retention (PR-1)
- Biofiltration (BF-1)
  - Flow-thru treatment control with prior lawful approval to meet earlier PDP requirements (provide ( BMP type/description in discussion section below)
    - Flow-thru treatment control included as pre-treatment/forebay for an onsite retention or
  - biofiltration BMP (provide BMP type/description and indicate which onsite retention or biofiltration BMP it serves in discussion section below)
  - Flow-thru treatment control with alternative compliance (provide BMP type/description in
  - Detention pond or vault for hydromodification management
  - Other (describe in discussion section below)

Purpose:

- Pollutant control only
- Hydromodification control only
- Combined pollutant control and hydromodification control
- Pre-treatment / forebay for another structural BMP
- Other (describe in discussion section below)

Who will certify construction of this BMP? Provide name and contact information for the party responsible to sign BMP verification form DS-563	Antony K. Christensen, RCE Christensen Engineering & Surveying 7888 Silverton Avenue, Suite "J" San Diego, CA 92126 858-271-9901
Who will be the final owner of this BMP?	City of San Diego
Who will maintain this BMP into perpetuity?	City of San Diego
What is the funding mechanism for maintenance?	Funding will be maintained through a Storm Water Management and Discharge Control Maintenance Agreement

Form I-6 Page 4 of X (Copy as many as needed)

Structural BMP ID No. (BRB 1, 2 & 3)

Construction Plan Sheet No. Sheet 3 of the Preliminary Grading Plan

Discussion (as needed):

 <small>THE CITY OF SAN DIEGO</small>	City of San Diego <b>Development Services</b> 1222 First Ave., MD-302 San Diego, CA 92101 (619) 446-5000	<h2 style="margin: 0;">Permanent BMP Construction</h2> <p style="margin: 0;">Self Certification Form</p>	FORM <b>DS-563</b> February 2016
Date Prepared:		Project No.:	
Project Applicant:		Phone:	
Project Address:			
Project Engineer:		Phone:	
<p>The purpose of this form is to verify that the site improvements for the project, identified above, have been constructed in conformance with the approved Storm Water Quality Management Plan (SWQMP) documents and drawings.</p> <p>This form must be completed by the engineer and submitted prior to final inspection of the construction permit. Completion and submittal of this form is required for all new development and redevelopment projects in order to comply with the City's Storm Water ordinances and NDPES Permit Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100. Final inspection for occupancy and/or release of grading or public improvement bonds may be delayed if this form is not submitted and approved by the City of San Diego.</p>			
<p><b>CERTIFICATION:</b>          As the professional in responsible charge for the design of the above project, I certify that I have inspected all constructed Low Impact Development (LID) site design, source control and structural BMP's required per the approved SWQMP and Construction Permit No. _____; and that said BMP's have been constructed in compliance with the approved plans and all applicable specifications, permits, ordinances and Order No. R9-2013-0001 as amended by R9-2015-0001 and R9-2015-0100 of the San Diego Regional Water Quality Control Board.</p> <p>I understand that this BMP certification statement does not constitute an operation and maintenance verification.</p>			
Signature: _____  Date of Signature: _____  Printed Name: _____  Title: _____  Phone No. _____		<div style="border: 1px solid black; width: 100%; height: 100%; display: flex; align-items: center; justify-content: center;"> <p style="margin: 0;">Engineer's Stamp</p> </div>	

DS-563 (01-16)

# **ATTACHMENT 1 BACKUP FOR PDP POLLUTANT CONTROL BMPS**

This is the cover sheet for Attachment 1.

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**Indicate which Items are Included:**

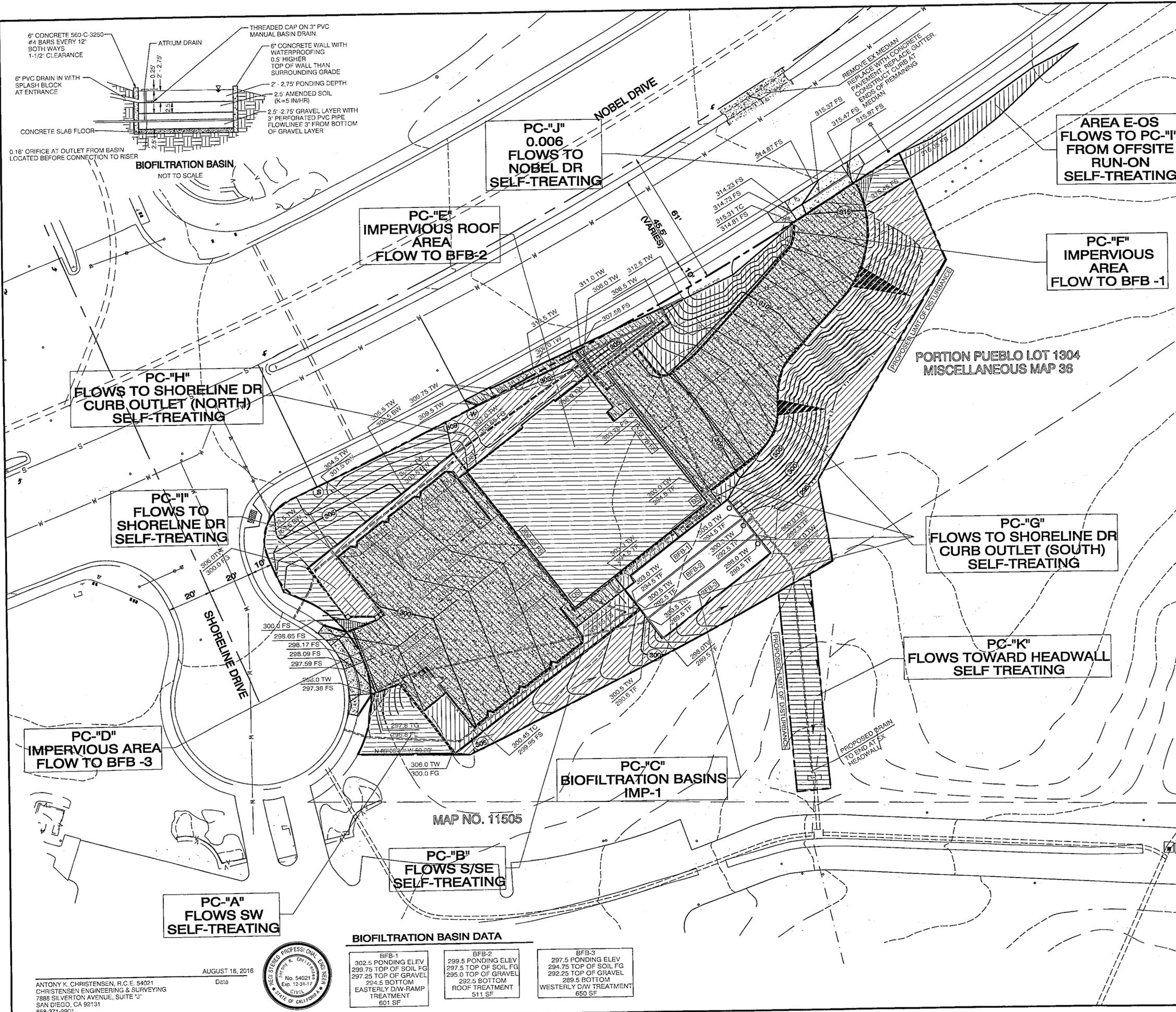
Attachment Sequence	Contents	Checklist
<b>Attachment 1a</b>	DMA Exhibit (Required)  See DMA Exhibit Checklist.	<input checked="" type="checkbox"/> Included
<b>Attachment 1b</b>	Tabular Summary of DMAs Showing DMA ID matching DMA Exhibit, DMA Area, and DMA Type (Required)*  *Provide table in this Attachment OR on DMA Exhibit in Attachment 1a	<input checked="" type="checkbox"/> Included  <input type="checkbox"/> Included as Attachment 1b, separate from DMA Exhibit
<b>Attachment 1c</b>	Form I-7, Harvest and Use Feasibility Screening Checklist (Required unless the entire project will use infiltration BMPs)  Refer to Appendix B.3-1 of the BMP Design Manual to complete Form I-7.	<input checked="" type="checkbox"/> Included  <input type="checkbox"/> Not included because the entire project will use infiltration BMPs
<b>Attachment 1d</b>	Form I-8, Categorization of Infiltration Feasibility Condition (Required unless the project will use harvest and use BMPs)  Refer to Appendices C and D of the BMP Design Manual to complete Form I-8.	<input checked="" type="checkbox"/> Included (See Attachment No. 6)  <input type="checkbox"/> Not included because the entire project will use harvest and use BMPs
<b>Attachment 1e</b>	Pollutant Control BMP Design Worksheets / Calculations (Required)  Refer to Appendices B and E of the BMP Design Manual for structural pollutant control BMP design guidelines and site design credit calculations	<input checked="" type="checkbox"/> Included

**Use this checklist to ensure the required information has been included on the DMA Exhibit:**

The DMA Exhibit must identify:

- Underlying hydrologic soil group
- Approximate depth to groundwater
- Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- Critical coarse sediment yield areas to be protected
- Existing topography and impervious areas
- Existing and proposed site drainage network and connections to drainage offsite
- Proposed grading
- Proposed impervious features
- Proposed design features and surface treatments used to minimize imperviousness
- Drainage management area (DMA) boundaries, DMA ID numbers, and DMA areas (square footage or acreage), and DMA type (i.e., drains to BMP, self-retaining, or self-mitigating)
- Potential pollutant source areas and corresponding required source controls (see Chapter 4, Appendix E.1, and Form I-3B)
- Structural BMPs (identify location, type of BMP, and size/detail)

# DRAINAGE MANAGEMENT AREAS



**EXHIBIT CHECKLIST:**

HYDROLOGIC SOIL GROUP: "D" (UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY)

APPROXIMATE DEPTH TO GROUNDWATER: GREATER THAN 20'

EXISTING NATURAL HYDROLOGIC RESOURCES: NO WATERCOURSES, SEEP SPRINGS OR WETLANDS EXIST IN THE PROJECT AREA

CRITICAL COARSE SEDIMENT YIELD AREAS: POTENTIAL COSYAS (PCCSYAS) OCCUR ONSITE BUT IMPROVEMENTS DO NOT IMPACT THESE POTENTIAL AREAS

EXISTING TOPOGRAPHY AND IMPERVIOUS AREAS: TOPOGRAPHY IS SHOWN NO IMPERVIOUS AREAS EXIST IN THE AREA TO BE DEVELOPED

EXISTING AND PROPOSED SITE DRAINAGE NETWORK AND CONNECTIONS TO DRAINAGE OFFSITE: NO ONSITE DRAINAGE NETWORK EXISTS PROPOSED NETWORK IS SHOWN OFFSITE DRAIN CONNECTION IS SHOWN

PROPOSED GRADING: IS SHOWN ON DMA MAP

PROPOSED IMPERVIOUS FEATURES: IMPERVIOUS ROOF/PAVING IS SHOWN

PROPOSED DESIGN FEATURES AND SURFACE TREATMENTS USED TO MINIMIZE IMPERVIOUSNESS: ARE SHOWN AND LANDSCAPED AREAS ARE USED TO MINIMIZE IMPERVIOUSNESS.

DMA MANAGEMENT AREA BOUNDARIES, NUMBERS, AREAS AND TYPES: SHOWN

POTENTIAL POLLUTANT SOURCE AREAS AND SOURCE CONTROLS:

EXISTING ONSITE STORM DRAIN INLET: NONE EXIST (HEADWALL EXISTS)

INDOOR DRAINS, GARAGES AND PESTICIDE USE: NOT EMPLOYED

LANDSCAPE/OUTSIDE PESTICIDE USE: NOT ANTICIPATED TO BE USED

POOL'S, SPAS, PONDS: NOT EMPLOYED

FOOD SERVICE: NOT EMPLOYED

REFUSE AREAS, OUTSIDE REFUSE AREA TO BE COVERED

INDUSTRIAL PROCESSES: DO NOT OCCUR

OUTDOOR STORAGE OF EQUIPMENT OR MATERIALS: DOES NOT EXIST

VEHICLE CLEANING: DOES EXIST

VEHICLE AND EQUIPMENT REPAIR: DOES EXIST

FUEL DISPENSING AREAS: DO EXIST

LOADING DOCKS: DO NOT EXIST

FIRE SPRINKLER TEST WATER: DOES NOT EXIST

MISCELLANEOUS DRAIN OR WASH WATER: DOES NOT EXIST

PLAZAS, SIDEWALKS AND PARKING LOTS: DO EXIST

STRUCTURAL BMP SHOWN AS TO LOCATION, TYPE, SIZE AND DETAIL ARE SHOWN (BIORETENTION BASIN)

ID #	AREA	TYPE OF SURFACE	DMA TYPE
DMA-A	0.019 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-B	0.187 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-C	0.043 AC	IMP-1 BFBs	(SELF-TREATING)
DMA-D	0.175 AC	PARKING AREA	FLOWS TO BFB-2
DMA-E	0.137 AC	ROOF AREA	FLOWS TO BFB-2
DMA-F	0.161 AC	PARKING AREA	FLOWS TO BFB-1
DMA-G	0.053 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-H	0.044 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-I	0.057 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-J	0.006 AC	LANDSCAPED AREA	(SELF-TREATING)
DMAE-OS	0.017 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-K	0.032 AC	LANDSCAPED AREA	(SELF-TREATING)

**BIOFILTRATION BASIN DATA**

BFB-1	BFB-2	BFB-3
302.5 PONDING ELEV	299.5 PONDING ELEV	297.5 PONDING ELEV
299.75 TOP OF SOIL FG	297.5 TOP OF SOIL FG	294.75 TOP OF SOIL FG
297.25 TOP OF GRAVEL	295.0 TOP OF GRAVEL	292.25 TOP OF GRAVEL
294.5 BOTTOM	292.5 BOTTOM	289.5 BOTTOM
EASTERLY D/W-RAMP TREATMENT	ROOF TREATMENT	WESTERLY D/W TREATMENT
601 SF	511 SF	650 SF

SAFDE RABINES ARCHITECTS  
 825 FORT STODOLSON DRIVE  
 SAN DIEGO, CA 92113  
 619.597.6148  
 SRARCH@SAFDERABINES.COM

**PRELIMINARY GRADING PLAN**

**PLANS FOR THE CONSTRUCTION OF FIRE STATION 50**

SE CORNER OF NOBEL DR. AND SHORELINE DR.

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET OF SHEETS

WATER WBS: S-13021  
 SEWER WBS: X-XXXX

FOR CITY ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PROJECT NAME: \_\_\_\_\_ RCE#: \_\_\_\_\_  
 DESCRIPTION: ORIGINAL BY: \_\_\_\_\_ APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_ FILMED: \_\_\_\_\_

254-1707  
 CCS27 COORDINATE  
 6274-1897  
 CCS83 COORDINATE

CONTRACTOR: \_\_\_\_\_ DATE STARTED: \_\_\_\_\_  
 INSPECTOR: \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_

**C1.2**

ANTHONY K. CHRISTENSEN, R.C.E. 54021  
 CHRISTENSEN ENGINEERING & SURVEYING  
 7888 SILVERTON AVENUE, SUITE "J"  
 SAN DIEGO, CA 92131  
 858-271-9901

AUGUST 18, 2016 Date

PROFESSIONAL SEAL: ANTHONY K. CHRISTENSEN, CIVIL ENGINEER, STATE OF CALIFORNIA

**Appendix B: Storm Water Pollutant Control Hydrologic Calculations and Sizing Methods  
Fire Station 50 BRB-1**

**Worksheet B.2-1 DCV**

Design Capture Volume		Worksheet B.2-1		
1	85 <sup>th</sup> percentile 24-hr storm depth from Figure B.1-1	d=	0.52	inches
2	Area tributary to BMP (s)	A=	0.161	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.90	unitless
4	Trees Credit Volume	TCV=	0	cubic-feet
5	Rain barrels Credit Volume	RCV=	0	cubic-feet
6	Calculate DCV = $(3630 \times C \times d \times A) - TCV - RCV$	DCV=	274	cubic-feet

		<b>Project Name</b> Fire Station 50
		<b>BMP ID</b> BRB-1
<b>Sizing Method for Pollutant Removal Criteria</b>		<b>Worksheet B.5-1</b>
1	Area draining to the BMP	7015 sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.9
3	85 <sup>th</sup> percentile 24-hour rainfall depth	0.52 inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	274 cu. ft.
<b>BMP Parameters</b>		
5	Surface ponding [6 inch minimum, 12 inch maximum]	27 inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	30 inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	33 inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3 inches
9	Freely drained pore storage of the media	0.2 in/in
10	Porosity of aggregate storage	0.4 in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	2.2 in/hr.
<b>Baseline Calculations</b>		
12	Allowable routing time for sizing	6 hours
13	Depth filtered during storm [ Line 11 x Line 12]	13.2 inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	47.4 inches
15	Total Depth Treated [Line 13 + Line 14]	60.6 inches
<b>Option 1 – Biofilter 1.5 times the DCV</b>		
16	Required biofiltered volume [1.5 x Line 4]	410 cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	81 sq. ft.
<b>Option 2 - Store 0.75 of remaining DCV in pores and ponding</b>		
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	205 cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	52 sq. ft.
<b>Footprint of the BMP</b>		
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-3)	0.03
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	189 sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	189 sq. ft.
23	Provided BMP Footprint	601 sq. ft.
24	Is Line 23 > Line 22?	<b>Yes, Performance Standard is Met</b>

		<b>Project Name</b>	Fire Station 50	
		<b>BMP ID</b>	BRB-1	
<b>Sizing Method for Volume Retention Criteria</b>		<b>Worksheet B.5-2</b>		
1	Area draining to the BMP	7015	sq. ft.	
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.9		
3	85 <sup>th</sup> percentile 24-hour rainfall depth	0.52	inches	
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	274	cu. ft.	
<b>BMP Parameters</b>				
5	Footprint of the BMP	601	sq. ft.	
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	30	inches	
7	Media retained pore space [50% of (FC-WP)]	0.05	in/in	
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches	
9	Porosity of aggregate storage	0.4	in/in	
<b>Volume Retention Requirement</b>				
10	Measured infiltration rate in the DMA	0.05	in/hr.	
11	Factor of safety	2		
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11] Note: This worksheet is not applicable if Line 12 < 0.01 in/hr.	0.025	in/hr.	
13	Average annual volume reduction target (Figure B.5-2) When Line 12 ≥ 0.01 in/hr. = Minimum (40, 166.9 x Line 12 +6.62)	10.8	%	
14	Fraction of DCV to be retained (Figure B.5-3) $0.0000013 \times \text{Line } 13^3 - 0.000057 \times \text{Line } 13^2 + 0.0086 \times \text{Line } 13 - 0.014$	0.074		
15	Target volume retention [Line 14 x Line 4]	20	cu. ft.	
<b>Evapotranspiration: Average Annual Volume Retention</b>				
16	Effective evapotranspiration depth [Line 6 x Line 7]	1.5	inches	
17	Retained Pore Volume [(Line 16 x Line 5)/12]	75	cu. ft.	
18	Fraction of DCV retained in pore spaces [Line 17/Line 4]	0.27		
19	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	14.2	%	
<b>Infiltration: Average Annual Volume Retention</b>				
20	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	48	hours	
21	Equivalent DCV fraction from evapotranspiration (use Line 19 and Line 20 in Figure B.4-1; Refer to Appendix B.4.2.2 )	0.11		
22	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	60	cu. ft.	
23	Infiltration Storage Fraction of DCV [Line 22/Line 4]	0.22		
24	Total Equivalent Fraction of DCV [Line 21 + Line 23]	0.33		
25	Biofiltration BMP average annual capture [use Line 24 and 20 in Figure B.4-1]	35.93	%	
<b>Volume retention required from site design and other BMPs</b>				
26	Fraction of DCV retained (Figure B.5-3) $0.0000013 \times \text{Line } 25^3 - 0.000057 \times \text{Line } 25^2 + 0.0086 \times \text{Line } 25 - 0.014$	0.282		
27	Remaining target DCV retention [(Line 14 – Line 26) x Line 4] Note: If Line 27 is equal to or smaller than 0 then the BMP meets the volume retention performance standard. If Line 27 is greater than 0, the applicant must implement site design and/or other BMPs within the DMA that will retain DCV equivalent to or greater than Line 27 to meet the volume retention performance standard	-57	cu. ft.	
<b>Volume Retention Performance Standard is Met</b>				

		<b>Project Name</b> Fire Station 50	<b>Worksheet B.5-3</b>	
		<b>BMP ID</b> BRB-1		
<b>Alternative Minimum Footprint Sizing Factor</b>			<b>Worksheet B.5-3</b>	
1	Area draining to the BMP		7015	sq. ft.
2	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)		0.9	
3	Load to Clog		2	lb/sq. ft.
4	Allowable Period to Accumulate Clogging Load (T <sub>c</sub> )		10	years
<b>Volume Weighted EMC Calculation</b>				
	<b>Land Use</b>	<b>Fraction of Total DCV</b>	<b>TSS EMC (mg/L)</b>	<b>Product</b>
	Single Family Residential		123	0
	Commercial		128	0
	Industrial	1	125	125
	Education (Municipal)		132	0
	Transportation		78	0
	Multi-family Residential		40	0
	Roof Runoff		14	0
	Low Traffic Areas		50	0
	Open Space		216	0
	Other, specify:			0
	Other, specify:			0
	Other, specify:			0
5	Volume Weighted EMC (sum of all products)		125	mg/L
<b>Sizing Factor for Clogging</b>				
6	Adjustment for pretreatment measures Where: Line 6 = 0 if no pretreatment; Line 6 = 0.25 when pretreatment is included; Line 6 = 0.5 if the pretreatment has an active Washington State TAPE approval rating for "pre-treatment."		0	
7	Average Annual Precipitation [Provide documentation of the data source in the discussion box; SanGIS has a GIS layer for average annual precipitation]		10.34	inches
8	Calculate the Average Annual Runoff (Line 7 x Line 1/12) x Line 2		5440	cu-ft/yr
9	Calculate the Average Annual TSS Load (Line 8 x 62.4 x Line 5 x (1 – Line 6))/10 <sup>6</sup>		42	lb/yr
10	Calculate the BMP Footprint Needed (Line 9 x Line 4)/Line 3		212	sq. ft.
11	Calculate the Minimum Footprint Sizing Factor for Clogging [ Line 10/ (Line 1 x Line 2)]		0.034	
<b>Discussion:</b>				
Annual Precipitation obtained from San Diego County Water Authority				

		<b>Project Name</b>		Fire Station 50			
		<b>BMP ID</b>		BRB-1			
<b>Volume Retention for No Infiltration Condition</b>				<b>Worksheet B.5-5</b>			
1	Area draining to the biofiltration BMP			7015	sq. ft.		
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)			0.9			
3	Effective impervious area draining to the BMP [Line 1 x Line 2]			6314	sq. ft.		
4	Required area for Evapotranspiration [Line 3 x 0.03]			189	sq. ft.		
5	Biofiltration BMP Footprint			601	sq. ft.		
<b>Landscape Area (must be identified on DS-3247)</b>							
		<b>Identification</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
6	Landscape area that meet the requirements in SD-4 and SD-5 Fact Sheet (sq. ft.)		none				
7	Impervious area draining to the landscape area (sq. ft.)		none				
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5)		0	0	0	0	0
10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]				0	sq. ft.	
11	Provided footprint for evapotranspiration [Line 5 + Line 10]				601	sq. ft.	
<b>Volume Retention Performance Standard</b>							
14	<p>Is Line 11 ≥ Line 4?</p> <p>If yes, then volume retention performance standard for no infiltration condition is met.</p> <p>If no, increase the landscape area or propose other site design BMPs (e.g. trees, rain barrels, etc.) that will result in equivalent or greater average annual volume retention when compared to the average annual volume retention achieved by a standard biofiltration BMP. If the option of implementing other site design BMPs is selected, applicant must include supporting documentation with explanation of the approach in the PDP SWQMP.</p>				<b>Performance Standard is Met</b>		

**Appendix B: Storm Water Pollutant Control Hydrologic Calculations and Sizing Methods  
Fire Station 50 BRB-2**

**Worksheet B.2-1 DCV**

Design Capture Volume		Worksheet B.2-1		
1	85 <sup>th</sup> percentile 24-hr storm depth from Figure B.1-1	d=	0.52	inches
2	Area tributary to BMP (s)	A=	0.137	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.90	unitless
4	Trees Credit Volume	TCV=	0	cubic-feet
5	Rain barrels Credit Volume	RCV=	0	cubic-feet
6	Calculate DCV = $(3630 \times C \times d \times A) - TCV - RCV$	DCV=	233	cubic-feet

		<b>Project Name</b> Fire Station 50
		<b>BMP ID</b> BRB-2
<b>Sizing Method for Pollutant Removal Criteria</b>		<b>Worksheet B.5-1</b>
1	Area draining to the BMP	5970 sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.9
3	85 <sup>th</sup> percentile 24-hour rainfall depth	0.52 inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	233 cu. ft.
<b>BMP Parameters</b>		
5	Surface ponding [6 inch minimum, 12 inch maximum]	24 inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	30 inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	27 inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3 inches
9	Freely drained pore storage of the media	0.2 in/in
10	Porosity of aggregate storage	0.4 in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	1.9 in/hr.
<b>Baseline Calculations</b>		
12	Allowable routing time for sizing	6 hours
13	Depth filtered during storm [ Line 11 x Line 12]	11.4 inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	42 inches
15	Total Depth Treated [Line 13 + Line 14]	53.4 inches
<b>Option 1 – Biofilter 1.5 times the DCV</b>		
16	Required biofiltered volume [1.5 x Line 4]	349 cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	78 sq. ft.
<b>Option 2 - Store 0.75 of remaining DCV in pores and ponding</b>		
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	175 cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	50 sq. ft.
<b>Footprint of the BMP</b>		
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-3)	0.03
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	161 sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	161 sq. ft.
23	Provided BMP Footprint	511 sq. ft.
24	Is Line 23 > Line 22?	<b>Yes, Performance Standard is Met</b>

		<b>Project Name</b>	Fire Station 50	
		<b>BMP ID</b>	BRB-2	
<b>Sizing Method for Volume Retention Criteria</b>		<b>Worksheet B.5-2</b>		
1	Area draining to the BMP	5970	sq. ft.	
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.9		
3	85 <sup>th</sup> percentile 24-hour rainfall depth	0.52	inches	
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	233	cu. ft.	
<b>BMP Parameters</b>				
5	Footprint of the BMP	511	sq. ft.	
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	30	inches	
7	Media retained pore space [50% of (FC-WP)]	0.05	in/in	
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches	
9	Porosity of aggregate storage	0.4	in/in	
<b>Volume Retention Requirement</b>				
10	Measured infiltration rate in the DMA	0.05	in/hr.	
11	Factor of safety	2		
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11] Note: This worksheet is not applicable if Line 12 < 0.01 in/hr.	0.025	in/hr.	
13	Average annual volume reduction target (Figure B.5-2) When Line 12 ≥ 0.01 in/hr. = Minimum (40, 166.9 x Line 12 +6.62)	10.8	%	
14	Fraction of DCV to be retained (Figure B.5-3) $0.0000013 \times \text{Line } 13^3 - 0.000057 \times \text{Line } 13^2 + 0.0086 \times \text{Line } 13 - 0.014$	0.074		
15	Target volume retention [Line 14 x Line 4]	17	cu. ft.	
<b>Evapotranspiration: Average Annual Volume Retention</b>				
16	Effective evapotranspiration depth [Line 6 x Line 7]	1.5	inches	
17	Retained Pore Volume [(Line 16 x Line 5)/12]	64	cu. ft.	
18	Fraction of DCV retained in pore spaces [Line 17/Line 4]	0.27		
19	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	14.2	%	
<b>Infiltration: Average Annual Volume Retention</b>				
20	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	48	hours	
21	Equivalent DCV fraction from evapotranspiration (use Line 19 and Line 20 in Figure B.4-1; Refer to Appendix B.4.2.2 )	0.11		
22	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	51	cu. ft.	
23	Infiltration Storage Fraction of DCV [Line 22/Line 4]	0.22		
24	Total Equivalent Fraction of DCV [Line 21 + Line 23]	0.33		
25	Biofiltration BMP average annual capture [use Line 24 and 20 in Figure B.4-1]	35.93	%	
<b>Volume retention required from site design and other BMPs</b>				
26	Fraction of DCV retained (Figure B.5-3) $0.0000013 \times \text{Line } 25^3 - 0.000057 \times \text{Line } 25^2 + 0.0086 \times \text{Line } 25 - 0.014$	0.282		
27	Remaining target DCV retention [(Line 14 – Line 26) x Line 4] Note: If Line 27 is equal to or smaller than 0 then the BMP meets the volume retention performance standard. If Line 27 is greater than 0, the applicant must implement site design and/or other BMPs within the DMA that will retain DCV equivalent to or greater than Line 27 to meet the volume retention performance standard	-48	cu. ft.	
<b>Volume Retention Performance Standard is Met</b>				

		<b>Project Name</b> Fire Station 50	
		<b>BMP ID</b> BRB-2	
<b>Alternative Minimum Footprint Sizing Factor</b>		<b>Worksheet B.5-3</b>	
1	Area draining to the BMP	5970	sq. ft.
2	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)	0.9	
3	Load to Clog	2	lb/sq. ft.
4	Allowable Period to Accumulate Clogging Load (T <sub>L</sub> )	10	years
<b>Volume Weighted EMC Calculation</b>			
	<b>Land Use</b>	<b>Fraction of Total DCV</b>	<b>TSS EMC (mg/L)</b>
	Single Family Residential		123
	Commercial		128
	Industrial	1	125
	Education (Municipal)		132
	Transportation		78
	Multi-family Residential		40
	Roof Runoff		14
	Low Traffic Areas		50
	Open Space		216
	Other, specify:		0
	Other, specify:		0
	Other, specify:		0
5	Volume Weighted EMC (sum of all products)	125	mg/L
<b>Sizing Factor for Clogging</b>			
6	Adjustment for pretreatment measures Where: Line 6 = 0 if no pretreatment; Line 6 = 0.25 when pretreatment is included; Line 6 = 0.5 if the pretreatment has an active Washington State TAPE approval rating for "pre-treatment."	0	
7	Average Annual Precipitation [Provide documentation of the data source in the discussion box; SanGIS has a GIS layer for average annual precipitation]	10.34	inches
8	Calculate the Average Annual Runoff (Line 7 x Line 1/12) x Line 2	4630	cu-ft/yr
9	Calculate the Average Annual TSS Load (Line 8 x 62.4 x Line 5 x (1 – Line 6))/10 <sup>6</sup>	36	lb/yr
10	Calculate the BMP Footprint Needed (Line 9 x Line 4)/Line 3	181	sq. ft.
11	Calculate the Minimum Footprint Sizing Factor for Clogging [ Line 10/ (Line 1 x Line 2)]	0.034	
<b>Discussion:</b>			
Annual Precipitation obtained from San Diego County Water Authority			

		<b>Project Name</b>		Fire Station 50				
		<b>BMP ID</b>		BRB-2				
<b>Volume Retention for No Infiltration Condition</b>				<b>Worksheet B.5-5</b>				
1	Area draining to the biofiltration BMP			5970				sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)			0.9				
3	Effective impervious area draining to the BMP [Line 1 x Line 2]			5373				sq. ft.
4	Required area for Evapotranspiration [Line 3 x 0.03]			161				sq. ft.
5	Biofiltration BMP Footprint			511				sq. ft.
<b>Landscape Area (must be identified on DS-3247)</b>								
		<b>Identification</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
6	Landscape area that meet the requirements in SD-4 and SD-5 Fact Sheet (sq. ft.)			none				
7	Impervious area draining to the landscape area (sq. ft.)			none				
8	Impervious to Pervious Area ratio [Line 7/Line 6]			0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]			0	0	0	0	0
10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]					0		sq. ft.
11	Provided footprint for evapotranspiration [Line 5 + Line 10]					511		sq. ft.
<b>Volume Retention Performance Standard</b>								
14	<p>Is Line 11 ≥ Line 4?</p> <p>If yes, then volume retention performance standard for no infiltration condition is met.</p> <p>If no, increase the landscape area or propose other site design BMPs (e.g. trees, rain barrels, etc.) that will result in equivalent or greater average annual volume retention when compared to the average annual volume retention achieved by a standard biofiltration BMP. If the option of implementing other site design BMPs is selected, applicant must include supporting documentation with explanation of the approach in the PDP SWQMP.</p>					<b>Performance Standard is Met</b>		

**Appendix B: Storm Water Pollutant Control Hydrologic Calculations and Sizing Methods  
Fire Station 50 BRB-3**

**Worksheet B.2-1 DCV**

Design Capture Volume		Worksheet B.2-1		
1	85 <sup>th</sup> percentile 24-hr storm depth from Figure B.1-1	d=	0.52	inches
2	Area tributary to BMP (s)	A=	0.175	acres
3	Area weighted runoff factor (estimate using Appendix B.1.1 and B.2.1)	C=	0.90	unitless
4	Trees Credit Volume	TCV=	0	cubic-feet
5	Rain barrels Credit Volume	RCV=	0	cubic-feet
6	Calculate DCV = $(3630 \times C \times d \times A) - TCV - RCV$	DCV=	297	cubic-feet

		<b>Project Name</b> Fire Station 50
		<b>BMP ID</b> BRB-3
<b>Sizing Method for Pollutant Removal Criteria</b>		<b>Worksheet B.5-1</b>
1	Area draining to the BMP	7625 sq. ft.
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.9
3	85 <sup>th</sup> percentile 24-hour rainfall depth	0.52 inches
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	297 cu. ft.
<b>BMP Parameters</b>		
5	Surface ponding [6 inch minimum, 12 inch maximum]	33 inches
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	30 inches
7	Aggregate storage (also add ASTM No 8 stone) above underdrain invert (12 inches typical) – use 0 inches if the aggregate is not over the entire bottom surface area	30 inches
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3 inches
9	Freely drained pore storage of the media	0.2 in/in
10	Porosity of aggregate storage	0.4 in/in
11	Media filtration rate to be used for sizing (maximum filtration rate of 5 in/hr. with no outlet control; if the filtration rate is controlled by the outlet use the outlet controlled rate (includes infiltration into the soil and flow rate through the outlet structure) which will be less than 5 in/hr.)	2 in/hr.
<b>Baseline Calculations</b>		
12	Allowable routing time for sizing	6 hours
13	Depth filtered during storm [ Line 11 x Line 12]	12 inches
14	Depth of Detention Storage [Line 5 + (Line 6 x Line 9) + (Line 7 x Line 10) + (Line 8 x Line 10)]	52.2 inches
15	Total Depth Treated [Line 13 + Line 14]	64.2 inches
<b>Option 1 – Biofilter 1.5 times the DCV</b>		
16	Required biofiltered volume [1.5 x Line 4]	446 cu. ft.
17	Required Footprint [Line 16/ Line 15] x 12	83 sq. ft.
<b>Option 2 - Store 0.75 of remaining DCV in pores and ponding</b>		
18	Required Storage (surface + pores) Volume [0.75 x Line 4]	223 cu. ft.
19	Required Footprint [Line 18/ Line 14] x 12	51 sq. ft.
<b>Footprint of the BMP</b>		
20	BMP Footprint Sizing Factor (Default 0.03 or an alternative minimum footprint sizing factor from Line 11 in Worksheet B.5-3)	0.03
21	Minimum BMP Footprint [Line 1 x Line 2 x Line 20]	206 sq. ft.
22	Footprint of the BMP = Maximum(Minimum(Line 17, Line 19), Line 21)	206 sq. ft.
23	Provided BMP Footprint	650 sq. ft.
24	Is Line 23 > Line 22?	<b>Yes, Performance Standard is Met</b>

		<b>Project Name</b> Fire Station 50		
		<b>BMP ID</b> BRB-3		
<b>Sizing Method for Volume Retention Criteria</b>		<b>Worksheet B.5-2</b>		
1	Area draining to the BMP	7625	sq. ft.	
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)	0.9		
3	85 <sup>th</sup> percentile 24-hour rainfall depth	0.52	inches	
4	Design capture volume [Line 1 x Line 2 x (Line 3/12)]	297	cu. ft.	
<b>BMP Parameters</b>				
5	Footprint of the BMP	650	sq. ft.	
6	Media thickness [18 inches minimum], also add mulch layer and washed ASTM 33 fine aggregate sand thickness to this line for sizing calculations	30	inches	
7	Media retained pore space [50% of (FC-WP)]	0.05	in/in	
8	Aggregate storage below underdrain invert (3 inches minimum) – use 0 inches if the aggregate is not over the entire bottom surface area	3	inches	
9	Porosity of aggregate storage	0.4	in/in	
<b>Volume Retention Requirement</b>				
10	Measured infiltration rate in the DMA	0.05	in/hr.	
11	Factor of safety	2		
12	Reliable infiltration rate, for biofiltration BMP sizing [Line 10/ Line 11] Note: This worksheet is not applicable if Line 12 < 0.01 in/hr.	0.025	in/hr.	
13	Average annual volume reduction target (Figure B.5-2) When Line 12 ≥ 0.01 in/hr. = Minimum (40, 166.9 x Line 12 +6.62)	10.8	%	
14	Fraction of DCV to be retained (Figure B.5-3) $0.0000013 \times \text{Line } 13^3 - 0.000057 \times \text{Line } 13^2 + 0.0086 \times \text{Line } 13 - 0.014$	0.074		
15	Target volume retention [Line 14 x Line 4]	22	cu. ft.	
<b>Evapotranspiration: Average Annual Volume Retention</b>				
16	Effective evapotranspiration depth [Line 6 x Line 7]	1.5	inches	
17	Retained Pore Volume [(Line 16 x Line 5)/12]	81	cu. ft.	
18	Fraction of DCV retained in pore spaces [Line 17/Line 4]	0.27		
19	Evapotranspiration average annual capture [ET nomographs in Figure B.5-5]	14.2	%	
<b>Infiltration: Average Annual Volume Retention</b>				
20	Drawdown for infiltration storage [(Line 8 x Line 9)/Line 12]	48	hours	
21	Equivalent DCV fraction from evapotranspiration (use Line 19 and Line 20 in Figure B.4-1; Refer to Appendix B.4.2.2 )	0.11		
22	Infiltration volume storage [(Line 5 x Line 8 x Line 9)/12]	65	cu. ft.	
23	Infiltration Storage Fraction of DCV [Line 22/Line 4]	0.22		
24	Total Equivalent Fraction of DCV [Line 21 + Line 23]	0.33		
25	Biofiltration BMP average annual capture [use Line 24 and 20 in Figure B.4-1]	35.93	%	
<b>Volume retention required from site design and other BMPs</b>				
26	Fraction of DCV retained (Figure B.5-3) $0.0000013 \times \text{Line } 25^3 - 0.000057 \times \text{Line } 25^2 + 0.0086 \times \text{Line } 25 - 0.014$	0.282		
27	Remaining target DCV retention [(Line 14 – Line 26) x Line 4] Note: If Line 27 is equal to or smaller than 0 then the BMP meets the volume retention performance standard. If Line 27 is greater than 0, the applicant must implement site design and/or other BMPs within the DMA that will retain DCV equivalent to or greater than Line 27 to meet the volume retention performance standard	-62	cu. ft.	
<b>Volume Retention Performance Standard is Met</b>				

		<b>Project Name</b> Fire Station 50		
		<b>BMP ID</b> BRB-3		
<b>Alternative Minimum Footprint Sizing Factor</b>			<b>Worksheet B.5-3</b>	
1	Area draining to the BMP		7625	sq. ft.
2	Adjusted Runoff Factor for drainage area (Refer to Appendix B.1 and B.2)		0.9	
3	Load to Clog		2	lb/sq. ft.
4	Allowable Period to Accumulate Clogging Load (T <sub>L</sub> )		10	years
<b>Volume Weighted EMC Calculation</b>				
	<b>Land Use</b>	<b>Fraction of Total DCV</b>	<b>TSS EMC (mg/L)</b>	<b>Product</b>
	Single Family Residential		123	0
	Commercial		128	0
	Industrial	1	125	125
	Education (Municipal)		132	0
	Transportation		78	0
	Multi-family Residential		40	0
	Roof Runoff		14	0
	Low Traffic Areas		50	0
	Open Space		216	0
	Other, specify:			0
	Other, specify:			0
	Other, specify:			0
5	Volume Weighted EMC (sum of all products)		125	mg/L
<b>Sizing Factor for Clogging</b>				
6	Adjustment for pretreatment measures Where: Line 6 = 0 if no pretreatment; Line 6 = 0.25 when pretreatment is included; Line 6 = 0.5 if the pretreatment has an active Washington State TAPE approval rating for "pre-treatment."		0	
7	Average Annual Precipitation [Provide documentation of the data source in the discussion box; SanGIS has a GIS layer for average annual precipitation]		10.34	inches
8	Calculate the Average Annual Runoff (Line 7 x Line 1/12) x Line 2		5913	cu-ft/yr
9	Calculate the Average Annual TSS Load (Line 8 x 62.4 x Line 5 x (1 – Line 6))/10 <sup>6</sup>		46	lb/yr
10	Calculate the BMP Footprint Needed (Line 9 x Line 4)/Line 3		231	sq. ft.
11	Calculate the Minimum Footprint Sizing Factor for Clogging [ Line 10/ (Line 1 x Line 2)]		0.034	
<b>Discussion:</b>				
Annual Precipitation obtained from San Diego County Water Authority				

		<b>Project Name</b> Fire Station 50					
		<b>BMP ID</b> BRB-3					
<b>Volume Retention for No Infiltration Condition</b>				<b>Worksheet B.5-5</b>			
1	Area draining to the biofiltration BMP				7625	sq. ft.	
2	Adjusted runoff factor for drainage area (Refer to Appendix B.1 and B.2)				0.9		
3	Effective impervious area draining to the BMP [Line 1 x Line 2]				6863	sq. ft.	
4	Required area for Evapotranspiration [Line 3 x 0.03]				206	sq. ft.	
5	Biofiltration BMP Footprint				650	sq. ft.	
<b>Landscape Area (must be identified on DS-3247)</b>							
		<b>Identification</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
6	Landscape area that meet the requirements in SD-4 and SD-5 Fact Sheet (sq. ft.)		none				
7	Impervious area draining to the landscape area (sq. ft.)		none				
8	Impervious to Pervious Area ratio [Line 7/Line 6]		0.00	0.00	0.00	0.00	0.00
9	Effective Credit Area If (Line 8 >1.5, Line 6, Line 7/1.5]		0	0	0	0	0
10	Sum of Landscape area [sum of Line 9 Id's 1 to 5]				0	sq. ft.	
11	Provided footprint for evapotranspiration [Line 5 + Line 10]				650	sq. ft.	
<b>Volume Retention Performance Standard</b>							
14	<p>Is Line 11 <math>\geq</math> Line 4?</p> <p>If yes, then volume retention performance standard for no infiltration condition is met.</p> <p>If no, increase the landscape area or propose other site design BMPs (e.g. trees, rain barrels, etc.) that will result in equivalent or greater average annual volume retention when compared to the average annual volume retention achieved by a standard biofiltration BMP. If the option of implementing other site design BMPs is selected, applicant must include supporting documentation with explanation of the approach in the PDP SWQMP.</p>				<b>Performance Standard is Met</b>		

**Appendix H: Guidance for Investigation Potential Critical Coarse Sediment Yield Areas**

Harvest and Use Feasibility Checklist		Form I-7
<p>1. Is there a demand for harvested water (check all that apply) at the project site that is reliably present during the wet season?</p> <p><input type="checkbox"/> Toilet and urinal flushing</p> <p><input type="checkbox"/> Landscape irrigation</p> <p><input type="checkbox"/> Other: _____</p>		
<p>2. If there is a demand; estimate the anticipated average wet season demand over a period of 36 hours. Guidance for planning level demand calculations for toilet/urinal flushing and landscape irrigation is provided in Section B.3.2.</p> <p>[Provide a summary of calculations here]</p> <p>From Table B.3-3 for Low Plant Water use 390 gal/36hr/Ac                      Area of landscaping = 0.441 Ac                      Landscape water demand = 390 x 0.441 = 172 gallon = 23 cf</p>		
<p>3. Calculate the DCV using worksheet B-2.1.</p> <p>DCV = <u>803</u> (cubic feet)</p>		
<p>3a. Is the 36 hour demand greater than or equal to the DCV?</p> <p><input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No    ⇒</p> <p>↓</p>	<p>3b. Is the 36 hour demand greater than 0.25DCV but less than the full DCV?</p> <p><input type="checkbox"/> Yes / <input checked="" type="checkbox"/> No    ⇒</p> <p>↓</p>	<p>3c. Is the 36 hour demand less than 0.25DCV?</p> <p><input checked="" type="checkbox"/> Yes</p> <p>↓</p>
<p>Harvest and use appears to be feasible. Conduct more detailed evaluation and sizing calculations to confirm that DCV can be used at an adequate rate to meet drawdown criteria.</p>	<p>Harvest and use may be feasible. Conduct more detailed evaluation and sizing calculations to determine feasibility. Harvest and use may only be able to be used for a portion of the site, or (optionally) the storage may need to be upsized to meet long term capture targets while draining in longer than 36 hours.</p>	<p>Harvest and use is considered to be infeasible.</p>
<p>Is harvest and use feasible based on further evaluation?</p> <p><input type="checkbox"/> Yes, refer to Appendix E to select and size harvest and use BMPs.</p> <p><input checked="" type="checkbox"/> No, select alternate BMPs.</p>		

**E.13. BF-1 Biofiltration**

Location: 43<sup>rd</sup> Street and Logan Avenue, San Diego, California

**MS4 Permit Category**

Biofiltration

**Manual Category**

Biofiltration

**Applicable Performance Standard**

Pollutant Control

Flow Control

**Primary Benefits**

Treatment

Volume Reduction (Incidental)

Peak Flow Attenuation (Optional)

**Description**

Biofiltration (Bioretention with underdrain) facilities are vegetated surface water systems that filter water through vegetation, and soil or engineered media prior to discharge via underdrain or overflow to the downstream conveyance system. Bioretention with underdrain facilities are commonly incorporated into the site within parking lot landscaping, along roadsides, and in open spaces. Because these types of facilities have limited or no infiltration, they are typically designed to provide enough hydraulic head to move flows through the underdrain connection to the storm drain system. Treatment is achieved through filtration, sedimentation, sorption, biochemical processes and plant uptake.

Typical bioretention with underdrain components include:

- Inflow distribution mechanisms (e.g, perimeter flow spreader or filter strips)
- Energy dissipation mechanism for concentrated inflows (e.g., splash blocks or riprap)
- Shallow surface ponding for captured flows
- Side slope and basin bottom vegetation selected based on expected climate and ponding depth
- Non-floating mulch layer
- Media layer (planting mix or engineered media) capable of supporting vegetation growth
- Filter course layer (aka choking layer) consisting of aggregate to prevent the migration of fines into uncompacted native soils or the aggregate storage layer
- Aggregate storage layer with underdrain(s)
- Impermeable liner or uncompacted native soils at the bottom of the facility
- Overflow structure



**Design Adaptations for Project Goals**

**Biofiltration Treatment BMP for storm water pollutant control.** The system is lined or un-lined to provide incidental infiltration, and an underdrain is provided at the bottom to carry away filtered runoff. This configuration is considered to provide biofiltration treatment via flow through the media layer. Storage provided above the underdrain within surface ponding, media, and aggregate storage is considered included in the biofiltration treatment volume. Saturated storage within the aggregate storage layer can be added to this design by raising the underdrain above the bottom of the aggregate storage layer or via an internal weir structure designed to maintain a specific water level elevation.

**Integrated storm water flow control and pollutant control configuration.** The system can be designed to provide flow rate and duration control by primarily providing increased surface ponding and/or having a deeper aggregate storage layer above the underdrain. This will allow for significant detention storage, which can be controlled via inclusion of an outlet structure at the downstream end of the underdrain.

**Design Criteria and Considerations**

Bioretention with underdrain must meet the following design criteria. Deviations from the below criteria may be approved at the discretion of the City Engineer if it is determined to be appropriate:

Siting and Design	Intent/Rationale
<ul style="list-style-type: none"> <li>□ Placement observes geotechnical recommendations regarding potential hazards (e.g., slope stability, landslides, liquefaction zones) and setbacks (e.g., slopes, foundations, utilities).</li> </ul>	<p>Must not negatively impact existing site geotechnical concerns.</p>
<ul style="list-style-type: none"> <li>□ An impermeable liner or other hydraulic restriction layer is included if site constraints indicate that infiltration or lateral flows should not be allowed.</li> </ul>	<p>Lining prevents storm water from impacting groundwater and/or sensitive environmental or geotechnical features. Incidental infiltration, when allowable, can aid in pollutant removal and groundwater recharge.</p>
<ul style="list-style-type: none"> <li>□ Contributing tributary area shall be <math>\leq 5</math> acres (<math>\leq 1</math> acre preferred).</li> </ul>	<p>Bigger BMPs require additional design features for proper performance. Contributing tributary area greater than 5 acres may be allowed at the discretion of the City Engineer if the following conditions are met: 1) incorporate design features (e.g. flow spreaders) to minimizing short circuiting of flows in the BMP and 2) incorporate additional design features requested by the City Engineer for proper performance of the regional BMP.</p>
<ul style="list-style-type: none"> <li>□ Finish grade of the facility is <math>\leq 2\%</math>.</li> </ul>	<p>Flatter surfaces reduce erosion and channelization within the facility.</p>

Surface Ponding

## Appendix E: BMP Design Fact Sheets

Siting and Design	Intent/Rationale
<input type="checkbox"/> Surface ponding is limited to a 24-hour drawdown time.	<p>Surface ponding limited to 24 hour for plant health.</p> <p>Surface ponding drawdown time greater than 24-hours but less than 96 hours may be allowed at the discretion of the City Engineer if certified by a landscape architect or agronomist.</p>
<input type="checkbox"/> Surface ponding depth is $\geq 6$ and $\leq 12$ inches.	<p>Surface ponding capacity lowers subsurface storage requirements. Deep surface ponding raises safety concerns.</p> <p>Surface ponding depth greater than 12 inches (for additional pollutant control or surface outlet structures or flow-control orifices) may be allowed at the discretion of the City Engineer if the following conditions are met: 1) surface ponding depth drawdown time is less than 24 hours; and 2) safety issues and fencing requirements are considered (typically ponding greater than 18" will require a fence and/or flatter side slopes) and 3) potential for elevated clogging risk is considered.</p>
<input type="checkbox"/> A minimum of 2 inches of freeboard is provided.	<p>Freeboard provides room for head over overflow structures and minimizes risk of uncontrolled surface discharge.</p>
<input type="checkbox"/> Side slopes are stabilized with vegetation and are = 3H:1V or shallower.	<p>Gentler side slopes are safer, less prone to erosion, able to establish vegetation more quickly and easier to maintain.</p>
Vegetation	
<input type="checkbox"/> Plantings are suitable for the climate and expected ponding depth. A plant list to aid in selection can be found in Appendix E.20.	<p>Plants suited to the climate and ponding depth are more likely to survive.</p>
<input type="checkbox"/> An irrigation system with a connection to water supply should be provided as needed.	<p>Seasonal irrigation might be needed to keep plants healthy.</p>
Mulch (Mandatory)	
<input type="checkbox"/> A minimum of 3 inches of well-aged, shredded hardwood mulch that has been stockpiled or stored for at least 12 months is provided.	<p>Mulch will suppress weeds and maintain moisture for plant growth. Aging mulch kills pathogens and weed seeds and allows the beneficial microbes to multiply.</p>
Media Layer	

Siting and Design	Intent/Rationale
<p>Media maintains a minimum filtration rate of 5 in/hr over lifetime of facility. Additional Criteria for media hydraulic conductivity described in the bioretention soil media model specification (Appendix F.4)</p>	<p>A filtration rate of at least 5 inches per hour allows soil to drain between events. The initial rate should be higher than long term target rate to account for clogging over time. However an excessively high initial rate can have a negative impact on treatment performance, therefore an upper limit is needed.</p>
<p>Media is a minimum 18 inches deep, meeting the following media specifications: Model bioretention soil media specification provided in Appendix F.4 or County of San Diego Low Impact Development Handbook: Appendix G - Bioretention Soil Specification (June 2014, unless superseded by more recent edition).</p> <p>Alternatively, for proprietary designs and custom media mixes not meeting the media specifications, the media meets the pollutant treatment performance criteria in Section F.1.</p>	<p>A deep media layer provides additional filtration and supports plants with deeper roots.</p> <p>Standard specifications shall be followed.</p> <p>For non-standard or proprietary designs, compliance with Appendix F.1 ensures that adequate treatment performance will be provided.</p>
<p>Media surface area is 3% of contributing area times adjusted runoff factor or greater. Unless demonstrated that the BMP surface area can be smaller than 3%.</p>	<p>Greater surface area to tributary area ratios: a) maximizes volume retention as required by the MS4 Permit and b) decrease loading rates per square foot and therefore increase longevity.</p> <p>Adjusted runoff factor is to account for site design BMPs implemented upstream of the BMP (such as rain barrels, impervious area dispersion, etc.). Refer to Appendix B.2 guidance.</p> <p>Use Worksheet B.5-1 Line 26 to estimate the minimum surface area required per this criteria.</p>
<p>Where receiving waters are impaired or have a TMDL for nutrients, the system is designed with nutrient sensitive media design (see fact sheet BF-2).</p>	<p>Potential for pollutant export is partly a function of media composition; media design must minimize potential for export of nutrients, particularly where receiving waters are impaired for nutrients.</p>
<p>Filter Course Layer</p>	
<p>A filter course is used to prevent migration of fines through layers of the facility. Filter fabric is not used.</p>	<p>Migration of media can cause clogging of the aggregate storage layer void spaces or subgrade and can result in poor water quality performance for turbidity and suspended solids. Filter fabric is more likely to clog.</p>

## Appendix E: BMP Design Fact Sheets

Siting and Design	Intent/Rationale
<ul style="list-style-type: none"> <li><input type="checkbox"/> Filter course is washed and free of fines.</li> </ul>	<p>Washing aggregate will help eliminate fines that could clog the facility and impede infiltration.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> To reduce clogging potential, a two-layer filter course (aka choking stone system) is used consisting of one 3” layer of clean and washed ASTM 33 Fine Aggregate Sand overlying a 3” layer of ASTM No 8 Stone (Appendix F.5).</li> </ul>	<p>This specification has been developed to maintain permeability while limiting the migration of media material into the stone reservoir and underdrain system.</p>
<p>Aggregate Storage Layer</p>	
<ul style="list-style-type: none"> <li><input type="checkbox"/> ASTM #57 open graded stone is used for the storage layer and a two layer filter course (detailed above) is used above this layer</li> </ul>	<p>This layer provides additional storage capacity. ASTM #8 stone provides an acceptable choking/bridging interface with the particles in ASTM #57 stone.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> The depth of aggregate provided (12-inch typical) and storage layer configuration is adequate for providing conveyance for underdrain flows to the outlet structure.</li> </ul>	<p>Proper storage layer configuration and underdrain placement will minimize facility drawdown time.</p>
<p>Inflow, Underdrain, and Outflow Structures</p>	
<ul style="list-style-type: none"> <li><input type="checkbox"/> Inflow, underdrains and outflow structures are accessible for inspection and maintenance.</li> </ul>	<p>Maintenance will prevent clogging and ensure proper operation of the flow control structures.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Inflow velocities are limited to 3 ft/s or less or use energy dissipation methods. (e.g., riprap, level spreader) for concentrated inflows.</li> </ul>	<p>High inflow velocities can cause erosion, scour and/or channeling.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Curb cut inlets are at least 12 inches wide, have a 4-6 inch reveal (drop) and an apron and energy dissipation as needed.</li> </ul>	<p>Inlets must not restrict flow and apron prevents blockage from vegetation as it grows in. Energy dissipation prevents erosion.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Underdrain outlet elevation should be a minimum of 3 inches above the bottom elevation of the aggregate storage layer.</li> </ul>	<p>A minimal separation from subgrade or the liner lessens the risk of fines entering the underdrain and can improve hydraulic performance by allowing perforations to remain unblocked.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Minimum underdrain diameter is 8 inches.</li> </ul>	<p>Smaller diameter underdrains are prone to clogging.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Underdrains should be affixed with an upturned elbow to an elevation at least 9 to 12 inches above the invert of the underdrain.</li> </ul>	<p>An upturned elbow reduces velocity in the underdrain pipe and can help reduce mobilization of sediments from the underdrain and media bed.</p>

Siting and Design	Intent/Rationale
<p>□ Underdrains are made of slotted, PVC pipe conforming to ASTM D 3034 or equivalent or corrugated, HDPE pipe conforming to AASHTO 252M or equivalent.</p>	<p>Slotted underdrains provide greater intake capacity, clog resistant drainage, and reduced entrance velocity into the pipe, thereby reducing the chances of solids migration.</p>
<p>□ An underdrain cleanout with a minimum 8-inch diameter and lockable cap is placed every 50 feet as required based on underdrain length.</p>	<p>Properly spaced cleanouts will facilitate underdrain maintenance.</p>
<p>□ Overflow is safely conveyed to a downstream storm drain system or discharge point. Size overflow structure to pass 100-year peak flow for on-line infiltration basins and water quality peak flow for off-line basins.</p>	<p>Planning for overflow lessens the risk of property damage due to flooding.</p>

***Conceptual Design and Sizing Approach for Storm Water Pollutant Control Only***

To design bioretention with underdrain for storm water pollutant control only (no flow control required), the following steps should be taken:

1. Verify that siting and design criteria have been met, including placement requirements, contributing tributary area, maximum side and finish grade slopes, and the recommended media surface area tributary ratio.
2. Calculate the DCV per Appendix B based on expected site design runoff for tributary areas.
3. Use the sizing worksheet presented in Appendix B.5 to size biofiltration BMPs.

***Conceptual Design and Sizing Approach when Storm Water Flow Control is Applicable***

Control of flow rates and/or durations will typically require significant surface ponding and/or aggregate storage volumes, and therefore the following steps should be taken prior to determination of storm water pollutant control design. Pre-development and allowable post-project flow rates and durations should be determined as discussed in Chapter 6 of the manual.

1. Verify that siting and design criteria have been met, including placement requirements, contributing tributary area, maximum side and finish grade slopes, and the recommended media surface area tributary ratio.
2. Iteratively determine the facility footprint area, surface ponding and/or aggregate storage layer depth required to provide detention storage to reduce flow rates and durations to allowable limits. Flow rates and durations can be controlled from detention storage by altering outlet structure orifice size(s) and/or water control levels. Multi-level orifices can be used within an outlet structure to control the full range of flows.
3. If bioretention with underdrain cannot fully provide the flow rate and duration control required by this manual, an upstream or downstream structure with significant storage volume such as an underground vault can be used to provide remaining controls.
4. After bioretention with underdrain has been designed to meet flow control requirements, calculations must be completed to verify if storm water pollutant control requirements to treat the DCV have been met.

**Biofiltration BMPs shall be allowed to be used only as described in the BMP selection process based on a documented feasibility analysis.**

1 Intent: This manual defines a specific prioritization of pollutant treatment BMPs, where BMPs that retain water (retained includes evapotranspired, infiltrated, and/or harvested and used) must be used before considering BMPs that have a biofiltered discharge to the MS4 or surface waters. Use of a biofiltration BMP in a manner in conflict with this prioritization (i.e., without a feasibility analysis justifying its use) is not permitted, regardless of the adequacy of the sizing and design of the system.

The project applicant has demonstrated that it is not technically feasible to retain the full DCV onsite. Document feasibility analysis and findings in SWQMP per Appendix C.

**Biofiltration BMPs must be sized using acceptable sizing methods.**

2 Intent: The MS4 Permit and this manual defines specific sizing methods that must be used to size biofiltration BMPs. Sizing of biofiltration BMPs is a fundamental factor in the amount of storm water that can be treated and also influences volume and pollutant retention processes.

The project applicant has demonstrated that biofiltration BMPs are sized to meet one of the biofiltration sizing options available (Appendix B.5). Submit sizing worksheets (Appendix B.5) or other equivalent documentation with the SWQMP.

**Biofiltration BMPs must be sited and designed to achieve maximum feasible infiltration and evapotranspiration.**

3 Intent: Various decisions about BMP placement and design influence how much water is retained via infiltration and evapotranspiration. The MS4 Permit requires that biofiltration BMPs achieve maximum feasible retention (evapotranspiration and infiltration) of storm water volume.

The biofiltration BMP is sited to allow for maximum infiltration of runoff volume based on the feasibility factors considered in site planning efforts. It is also designed to maximize evapotranspiration through the use of amended media and plants (biofiltration designs without amended media and plants may be permissible; see Item 5). Document site planning and feasibility analyses in SWQMP per Section 5.4.

*N/A*

For biofiltration BMPs categorized as “Partial Infiltration Condition,” the infiltration storage depth in the biofiltration design has been selected to drain in 36 hours (+/-25%) or an alternative value shown to maximize infiltration on the site. Included documentation of estimated infiltration rate per Appendix D; provide calculations using Appendix B.4 and B.5 to show that the infiltration storage depth meets this criterion. Note, depths that are too shallow or too deep may not be acceptable.

## Appendix F: Biofiltration Standard and Checklist

N/A	<input type="checkbox"/> For biofiltration BMP locations categorized as “Partial Infiltration Condition,” the infiltration storage is over the entire bottom of the biofiltration BMP footprint.	<p>Document on plans that the infiltration storage covers the entire bottom of the BMP (i.e., not just underdrain trenches); or an equivalent footprint elsewhere on the site.</p>
N/A	<input type="checkbox"/> For biofiltration BMP locations categorized as “Partial Infiltration Condition,” the sizing factor used for the infiltration storage area is not less than the minimum biofiltration BMP sizing factors calculated using Worksheet B.5.1.	<p>Provide a table that compares the minimum sizing factor per Worksheet B.5.1 to the provided sizing factor. Note: The infiltration storage area could be a separate storage feature located downstream of the biofiltration BMP, not necessarily within the same footprint.</p>
X	<p>An impermeable liner or other hydraulic restriction layer is only used when needed to avoid geotechnical and/or subsurface contamination issues in locations identified as “No Infiltration Condition.”</p>	<p>If using an impermeable liner or hydraulic restriction layer, provide documentation of feasibility findings per Appendix C that recommend the use of this feature.</p>
Not used	<input type="checkbox"/> The use of “compact” biofiltration BMP design <sup>8</sup> is permitted only in conditions identified as “No Infiltration Condition” and where site-specific documentation demonstrates that the use of larger footprint biofiltration BMPs would be infeasible.	<p>Provide documentation of feasibility findings that recommend no infiltration is feasible. Provide site-specific information to demonstrate that a larger footprint biofiltration BMP would not be feasible.</p>
4	<p><b>Biofiltration BMPs must be designed with a hydraulic loading rate to maximize pollutant retention, preserve pollutant control processes, and minimize potential for pollutant washout.</b></p>	<p>Intent: Various decisions about biofiltration BMP design influence the degree to which pollutants are retained. The MS4 Permit requires that biofiltration BMPs achieve maximum feasible retention of storm water pollutants.</p>

<sup>8</sup>Compact biofiltration BMPs are defined as features with infiltration storage footprint less than the minimum sizing factors required to achieve 40% volume retention. Note that if a biofiltration BMP is accompanied by an infiltrating area downstream that has a footprint equal to at least the minimum sizing factors calculated using Worksheet B.5.1 assuming a partial infiltration condition, then it is not considered to be a compact biofiltration BMP for the purpose of Item 4 of the checklist. For potential configurations with a higher rate biofiltration BMP upstream of a larger footprint infiltration area, the BMP would still need to comply with Item 5 of this checklist for pollutant treatment effectiveness.

## Appendix F: Biofiltration Standard and Checklist

Media selected for the biofiltration BMP meets minimum quality and material specifications per Appendix F.4 or County LID Manual, including the maximum allowable design filtration rate and minimum thickness of media. Provide documentation that media meets the specifications in Appendix F.4 or County LID Manual.

OR

Alternatively, for proprietary designs and custom media mixes not meeting the media specifications contained in Appendix F.4 or County LID Manual, field scale testing data are provided to demonstrate that proposed media meets the pollutant treatment performance criteria in Section F.1 below. Provide documentation of performance information as described in Section F.1.

To the extent practicable, filtration rates are outlet controlled (e.g., via an underdrain and orifice/weir) instead of controlled by the infiltration rate of the media. Include outlet control in designs or provide documentation of why outlet control is not practicable.

Include calculations to demonstrate that drawdown rate is adequate.

The water surface drains to at least 12 inches below the media surface within 24 hours from the end of storm event flow to preserve plant health and promote healthy soil structure. Surface ponding drawdown time greater than 24-hours but less than 96 hours may be allowed at the discretion of the City Engineer if certified by a landscape architect or agronomist.

*N/A*  
 If nutrients are a pollutant of concern, design of the biofiltration BMP follows nutrient-sensitive design criteria. Follow specifications for nutrient sensitive design in Fact Sheet BF-2. Or provide alternative documentation that nutrient treatment is addressed and potential for nutrient release is minimized.

Media gradation calculations demonstrate that migration of media between layers will be prevented and permeability will be preserved. Follow specification for choking layer in Fact Sheet PR-1 or BF-1. Or include calculations to demonstrate that choking layer is appropriately specified.

**5 Biofiltration BMPs must be designed to promote appropriate biological activity to support and maintain treatment processes.**

Intent: Biological processes are an important element of biofiltration performance and longevity.

## Appendix F: Biofiltration Standard and Checklist

<input checked="" type="checkbox"/>	Plants have been selected to be tolerant of project climate, design ponding depths and the treatment media composition.	Provide documentation justifying plant selection. Refer to the plant list in Appendix E.20.
<input checked="" type="checkbox"/>	Plants have been selected to minimize irrigation requirements.	Provide documentation describing irrigation requirements for establishment and long term operation.
<input checked="" type="checkbox"/>	Plant location and growth will not impede expected long-term media filtration rates and will enhance long term infiltration rates to the extent possible.	Provide documentation justifying plant selection. Refer to the plant list in Appendix E.20.
<input type="checkbox"/>	<i>N/A</i> If plants are not part of the biofiltration design, other biological processes are supported as needed to sustain treatment processes (e.g., biofilm in a subsurface flow wetland).	For biofiltration designs without plants, describe the biological processes that will support effective treatment and how they will be sustained. Refer to Appendix F.3
<p><b>Biofiltration BMPs must be designed with a hydraulic loading rate to prevent erosion, scour, and channeling within the BMP.</b></p>		
6	Intent: Erosion, scour, and/or channeling can disrupt treatment processes and reduce biofiltration effectiveness.	
<input checked="" type="checkbox"/>	Scour protection has been provided for both sheet flow and pipe inflows to the BMP, where needed.	Provide documentation of scour protection as described in Fact Sheets PR-1 or BF-1 or approved equivalent.
<input type="checkbox"/>	<i>N/A</i> Where scour protection has not been provided, flows into and within the BMP are kept to non-erosive velocities.	Provide documentation of design checks for erosive velocities as described in Fact Sheets PR-1 or BF-1 or approved equivalent.
<input type="checkbox"/>	<i>N/A</i> For proprietary BMPs, the BMP is used in a manner consistent with manufacturer guidelines and conditions of its third-party certification <sup>9</sup> (i.e., maximum tributary area, maximum inflow velocities, etc., as applicable).	Provide copy of manufacturer recommendations and conditions of third-party certification.

<sup>9</sup>Certifications or verifications issued by the Washington Technology Acceptance Protocol-Ecology program and the New Jersey Corporation for Advanced Technology programs are typically accompanied by a set of guidelines regarding appropriate design and maintenance conditions that would be consistent with the certification/verification

**7 Biofiltration BMP must include operations and maintenance design features and planning considerations for continued effectiveness of pollutant and flow control functions.**

Intent: Biofiltration BMPs require regular maintenance in order provide ongoing function as intended. Additionally, it is not possible to foresee and avoid potential issues as part of design; therefore plans must be in place to correct issues if they arise.

The biofiltration BMP O&M plan describes specific inspection activities, regular/periodic maintenance activities and specific corrective actions relating to scour, erosion, channeling, media clogging, vegetation health, and inflow and outflow structures. Include O&M plan with project submittal as described in Chapter 7.

Adequate site area and features have been provided for BMP inspection and maintenance access. Illustrate maintenance access routes, setbacks, maintenance features as needed on project water quality plans.

*N/A*  For proprietary biofiltration BMPs, the BMP maintenance plan is consistent with manufacturer guidelines and conditions of its third-party certification (i.e., maintenance activities, frequencies). Provide copy of manufacturer recommendations and conditions of third-party certification.

**SDHM2015  
PROJECT REPORT**

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**Project Name:** Fire Station 50 /Biofiltration Basin 1 upper  
**Site Name:**  
**Site Address:**  
**City :**  
**Report Date:** 4/18/2016  
**Gage :** LINDBERG  
**Data Start :** 10/01/1959  
**Data End :** 09/30/2004  
**Precip Scale:** 1.00  
**Version :** 2015/09/23

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**Low Flow Threshold for POC 1 :** 10 Percent of the 2 Year

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**High Flow Threshold for POC 1:** 10 year

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**PREDEVELOPED LAND USE**

**Name :** Basin 1  
**Bypass:** No

**GroundWater:** No

<u>Pervious Land Use</u>	<u>acre</u>
D,Grass,STEEP(10-20)	.1609
<b>Pervious Total</b>	<b>0.1609</b>
<u>Impervious Land Use</u>	<u>acre</u>
<b>Impervious Total</b>	<b>0</b>
<b>Basin Total</b>	<b>0.1609</b>

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**Element Flows To:**

<b>Surface</b>	<b>Interflow</b>	<b>Groundwater</b>
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**MITIGATED LAND USE**

**Name :** Basin 1  
**Bypass:** No

**GroundWater:** No

<u>Pervious Land Use</u>	<u>acre</u>
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Pervious Total 0

Impervious Land Use acre

IMPERVIOUS-MOD 0.1609

Impervious Total 0.1609

Basin Total 0.1609

Element Flows To:

Surface	Interflow	Groundwater
F T Plante Surface 1	F T Plante Surface 1	

Name : F T Planter 1

Bottom Length: 60.00 ft.

Bottom Width: 9.00 ft.

Material thickness of first layer: 2.5

Material type for first layer: Amended 5 in/hr

Material thickness of second layer: 2.75

Material type for second layer: GRAVEL

Material thickness of third layer: 0

Material type for third layer: GRAVEL

Underdrain used

Underdrain Diameter (feet): 0.33

Orifice Diameter (in.): 0.18

Offset (in.): 3

Flow Through Underdrain (ac-ft.): 3.912

Total Outflow (ac-ft.): 4.066

Percent Through Underdrain: 96.22

Discharge Structure

Riser Height: 2.75 ft.

Riser Diameter: 6 in.

Element Flows To:

Outlet 1	Outlet 2
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**F T Planter 1 Hydraulic Table**

<u>Stage(feet)</u>	<u>Area(ac.)</u>	<u>Volume(ac-ft.)</u>	<u>Discharge(cfs)</u>	<u>Infilt(cfs)</u>
0.0000	0.0124	0.0000	0.0000	0.0000
0.0934	0.0124	0.0005	0.0000	0.0000
0.1868	0.0124	0.0010	0.0000	0.0000
0.2802	0.0124	0.0015	0.0000	0.0000
0.3736	0.0124	0.0019	0.0000	0.0000
0.4670	0.0124	0.0024	0.0000	0.0000
0.5604	0.0124	0.0029	0.0000	0.0000
0.6538	0.0124	0.0034	0.0000	0.0000
0.7473	0.0124	0.0039	0.0000	0.0000

0.8407	0.0124	0.0044	0.0000	0.0000
0.9341	0.0124	0.0049	0.0000	0.0000
1.0275	0.0124	0.0053	0.0000	0.0000
1.1209	0.0124	0.0058	0.0000	0.0000
1.2143	0.0124	0.0063	0.0000	0.0000
1.3077	0.0124	0.0068	0.0000	0.0000
1.4011	0.0124	0.0073	0.0000	0.0000
1.4945	0.0124	0.0078	0.0000	0.0000
1.5879	0.0124	0.0083	0.0000	0.0000
1.6813	0.0124	0.0088	0.0000	0.0000
1.7747	0.0124	0.0092	0.0000	0.0000
1.8681	0.0124	0.0097	0.0000	0.0000
1.9615	0.0124	0.0102	0.0000	0.0000
2.0549	0.0124	0.0107	0.0000	0.0000
2.1484	0.0124	0.0112	0.0000	0.0000
2.2418	0.0124	0.0117	0.0000	0.0000
2.3352	0.0124	0.0122	0.0000	0.0000
2.4286	0.0124	0.0126	0.0000	0.0000
2.5220	0.0124	0.0131	0.0000	0.0000
2.6154	0.0124	0.0136	0.0000	0.0000
2.7088	0.0124	0.0141	0.0000	0.0000
2.8022	0.0124	0.0146	0.0000	0.0000
2.8956	0.0124	0.0150	0.0000	0.0000
2.9890	0.0124	0.0155	0.0000	0.0000
3.0824	0.0124	0.0160	0.0000	0.0000
3.1758	0.0124	0.0165	0.0000	0.0000
3.2692	0.0124	0.0170	0.0000	0.0000
3.3626	0.0124	0.0175	0.0000	0.0000
3.4560	0.0124	0.0179	0.0000	0.0000
3.5495	0.0124	0.0184	0.0000	0.0000
3.6429	0.0124	0.0189	0.0000	0.0000
3.7363	0.0124	0.0194	0.0000	0.0000
3.8297	0.0124	0.0199	0.0000	0.0000
3.9231	0.0124	0.0203	0.0000	0.0000
4.0165	0.0124	0.0208	0.0000	0.0000
4.1099	0.0124	0.0213	0.0000	0.0000
4.2033	0.0124	0.0218	0.0000	0.0000
4.2967	0.0124	0.0223	0.0000	0.0000
4.3901	0.0124	0.0227	0.0000	0.0000
4.4835	0.0124	0.0232	0.0000	0.0000
4.5769	0.0124	0.0237	0.0000	0.0000
4.6703	0.0124	0.0242	0.0000	0.0000
4.7637	0.0124	0.0247	0.0000	0.0000
4.8571	0.0124	0.0251	0.0000	0.0000
4.9505	0.0124	0.0256	0.0000	0.0000
5.0440	0.0124	0.0261	0.0000	0.0000
5.1374	0.0124	0.0266	0.0000	0.0000
5.2308	0.0124	0.0271	0.0000	0.0000
5.2500	0.0124	0.0272	0.0000	0.0000

**F T Plante Surface 1 Hydraulic Table**

<b>Stage(feet)</b>	<b>Area(ac.)</b>	<b>Volume(ac-ft.)</b>	<b>Discharge(cfs)</b>	<b>To Amended(cfs)</b>	<b>Wetted Surface</b>
5.2500	0.0124	0.0272	0.0000	0.0014	0.0000
5.3434	0.0124	0.0283	0.0000	0.0014	0.0000
5.4368	0.0124	0.0295	0.0000	0.0014	0.0000
5.5302	0.0124	0.0306	0.0000	0.0014	0.0000
5.6236	0.0124	0.0318	0.0000	0.0014	0.0000

5.7170	0.0124	0.0329	0.0000	0.0014	0.0000
5.8104	0.0124	0.0341	0.0000	0.0014	0.0000
5.9038	0.0124	0.0353	0.0001	0.0014	0.0000
5.9973	0.0124	0.0364	0.0002	0.0014	0.0000
6.0907	0.0124	0.0376	0.0003	0.0014	0.0000
6.1841	0.0124	0.0387	0.0004	0.0014	0.0000
6.2775	0.0124	0.0399	0.0004	0.0014	0.0000
6.3709	0.0124	0.0411	0.0005	0.0014	0.0000
6.4643	0.0124	0.0422	0.0005	0.0014	0.0000
6.5577	0.0124	0.0434	0.0005	0.0014	0.0000
6.6511	0.0124	0.0445	0.0006	0.0014	0.0000
6.7445	0.0124	0.0457	0.0006	0.0014	0.0000
6.8379	0.0124	0.0468	0.0006	0.0014	0.0000
6.9313	0.0124	0.0480	0.0006	0.0014	0.0000
7.0247	0.0124	0.0492	0.0007	0.0014	0.0000
7.1181	0.0124	0.0503	0.0007	0.0014	0.0000
7.2115	0.0124	0.0515	0.0007	0.0014	0.0000
7.3049	0.0124	0.0526	0.0008	0.0014	0.0000
7.3984	0.0124	0.0538	0.0008	0.0014	0.0000
7.4918	0.0124	0.0550	0.0008	0.0014	0.0000
7.5852	0.0124	0.0561	0.0008	0.0014	0.0000
7.6786	0.0124	0.0573	0.0008	0.0014	0.0000
7.7720	0.0124	0.0584	0.0009	0.0014	0.0000
7.8654	0.0124	0.0596	0.0009	0.0014	0.0000
7.9588	0.0124	0.0607	0.0009	0.0014	0.0000
8.0522	0.0124	0.0619	0.0009	0.0014	0.0000
8.1456	0.0124	0.0631	0.0009	0.0014	0.0000
8.2390	0.0124	0.0642	0.0010	0.0014	0.0000
8.3324	0.0124	0.0654	0.0010	0.0014	0.0000
8.4258	0.0124	0.0665	0.0010	0.0014	0.0000
8.5000	0.0124	0.0674	0.0010	0.0014	0.0000

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**Name** : F T Plante Surface 1

**Element Flows To:**

**Outlet 1**                      **Outlet 2**  
 F T Planter 1

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**ANALYSIS RESULTS**

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**Predeveloped Landuse Totals for POC #1**

**Total Pervious Area:0.1609**

**Total Impervious Area:0**

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**Mitigated Landuse Totals for POC #1**

**Total Pervious Area:0**

**Total Impervious Area:0.1609**

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Flow Frequency Return Periods for Predeveloped. POC #1

<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.01815
5 year	0.037282
10 year	0.048095
25 year	0.095215

Flow Frequency Return Periods for Mitigated. POC #1

<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.00104
5 year	0.010327
10 year	0.032015
25 year	0.043349

POC #1  
The Facility PASSED

The Facility **PASSED**.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0018	274	142	51	Pass
0.0023	237	135	56	Pass
0.0027	220	130	59	Pass
0.0032	201	126	62	Pass
0.0037	185	122	65	Pass
0.0042	177	117	66	Pass
0.0046	170	112	65	Pass
0.0051	163	103	63	Pass
0.0056	159	98	61	Pass
0.0060	143	96	67	Pass
0.0065	138	95	68	Pass
0.0070	130	92	70	Pass
0.0074	125	89	71	Pass
0.0079	123	89	72	Pass
0.0084	119	85	71	Pass
0.0088	116	82	70	Pass
0.0093	112	78	69	Pass
0.0098	106	75	70	Pass
0.0102	104	74	71	Pass
0.0107	97	71	73	Pass
0.0112	94	69	73	Pass
0.0116	88	68	77	Pass
0.0121	82	67	81	Pass
0.0126	81	63	77	Pass
0.0130	78	57	73	Pass
0.0135	76	54	71	Pass
0.0140	73	53	72	Pass
0.0144	71	52	73	Pass
0.0149	67	50	74	Pass
0.0154	62	46	74	Pass
0.0158	59	45	76	Pass
0.0163	57	43	75	Pass
0.0168	56	41	73	Pass
0.0172	56	41	73	Pass

0.0177	54	40	74	Pass
0.0182	53	39	73	Pass
0.0186	52	38	73	Pass
0.0191	51	36	70	Pass
0.0196	47	34	72	Pass
0.0200	47	32	68	Pass
0.0205	45	28	62	Pass
0.0210	43	27	62	Pass
0.0214	42	26	61	Pass
0.0219	41	26	63	Pass
0.0224	38	26	68	Pass
0.0229	34	26	76	Pass
0.0233	31	25	80	Pass
0.0238	30	25	83	Pass
0.0243	30	25	83	Pass
0.0247	29	24	82	Pass
0.0252	28	23	82	Pass
0.0257	27	23	85	Pass
0.0261	27	21	77	Pass
0.0266	27	21	77	Pass
0.0271	26	21	80	Pass
0.0275	26	21	80	Pass
0.0280	24	21	87	Pass
0.0285	24	20	83	Pass
0.0289	22	20	90	Pass
0.0294	21	20	95	Pass
0.0299	21	18	85	Pass
0.0303	20	17	85	Pass
0.0308	20	17	85	Pass
0.0313	20	15	75	Pass
0.0317	19	15	78	Pass
0.0322	19	14	73	Pass
0.0327	18	11	61	Pass
0.0331	17	10	58	Pass
0.0336	17	9	52	Pass
0.0341	16	9	56	Pass
0.0345	16	9	56	Pass
0.0350	16	9	56	Pass
0.0355	16	8	50	Pass
0.0359	15	7	46	Pass
0.0364	14	7	50	Pass
0.0369	14	6	42	Pass
0.0373	12	6	50	Pass
0.0378	12	6	50	Pass
0.0383	11	6	54	Pass
0.0387	11	6	54	Pass
0.0392	10	6	60	Pass
0.0397	9	6	66	Pass
0.0401	9	6	66	Pass
0.0406	9	6	66	Pass
0.0411	9	6	66	Pass
0.0416	9	6	66	Pass
0.0420	9	6	66	Pass
0.0425	9	6	66	Pass
0.0430	8	6	75	Pass
0.0434	8	6	75	Pass
0.0439	8	6	75	Pass

0.0444	7	5	71	Pass
0.0448	6	5	83	Pass
0.0453	6	5	83	Pass
0.0458	6	5	83	Pass
0.0462	5	4	80	Pass
0.0467	5	4	80	Pass
0.0472	5	4	80	Pass
0.0476	5	4	80	Pass
0.0481	4	4	100	Pass

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**Drawdown Time Results**

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**Perlnd and Implnd Changes**

No changes have been made.

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**SDHM2015  
PROJECT REPORT**

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**Project Name:** Fire Station 50 Biofiltration Basin 2 Roof  
**Site Name:**  
**Site Address:**  
**City :**  
**Report Date:** 4/18/2016  
**Gage :** LINDBERG  
**Data Start :** 10/01/1959  
**Data End :** 09/30/2004  
**Precip Scale:** 1.00  
**Version :** 2015/09/23

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**Low Flow Threshold for POC 1 :** 10 Percent of the 2 Year

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**High Flow Threshold for POC 1:** 10 year

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**PREDEVELOPED LAND USE**

**Name :** Basin 1  
**Bypass:** No

**GroundWater:** No

<u>Pervious Land Use</u>	<u>acre</u>
D,Grass,STEEP(10-20	.133

**Pervious Total** 0.133

<u>Impervious Land Use</u>	<u>acre</u>
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**Impervious Total** 0

**Basin Total** 0.133

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**Element Flows To:**

<b>Surface</b>	<b>Interflow</b>	<b>Groundwater</b>
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**MITIGATED LAND USE**

**Name :** Basin 1  
**Bypass:** No

**GroundWater:** No

<u>Pervious Land Use</u>	<u>acre</u>
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Pervious Total	0
<u>Impervious Land Use</u>	<u>acre</u>
IMPERVIOUS-FLAT	0.133
Impervious Total	0.133
Basin Total	0.133

Element Flows To:

Surface	Interflow	Groundwater
F T Plante Surface 1	F T Plante Surface 1	

Name : F T Planter 1  
 Bottom Length: 60.00 ft.  
 Bottom Width: 8.00 ft.  
 Material thickness of first layer: 2.5  
 Material type for first layer: Amended 5 in/hr  
 Material thickness of second layer: 2.5  
 Material type for second layer: GRAVEL  
 Material thickness of third layer: 0  
 Material type for third layer: GRAVEL  
Underdrain used  
 Underdrain Diameter (feet): 0.33  
 Orifice Diameter (in.): 0.18  
 Offset (in.): 3  
 Flow Through Underdrain (ac-ft.): 3.158  
 Total Outflow (ac-ft.): 3.355  
 Percent Through Underdrain: 94.12  
Discharge Structure  
 Riser Height: 2 ft.  
 Riser Diameter: 6 in.

Element Flows To:  
 Outlet 1                      Outlet 2

**F T Planter 1 Hydraulic Table**

<u>Stage(feet)</u>	<u>Area(ac.)</u>	<u>Volume(ac-ft.)</u>	<u>Discharge(cfs)</u>	<u>Infilt(cfs)</u>
0.0000	0.0110	0.0000	0.0000	0.0000
0.0824	0.0110	0.0004	0.0000	0.0000
0.1648	0.0110	0.0008	0.0000	0.0000
0.2473	0.0110	0.0011	0.0000	0.0000
0.3297	0.0110	0.0015	0.0000	0.0000
0.4121	0.0110	0.0019	0.0000	0.0000
0.4945	0.0110	0.0023	0.0000	0.0000
0.5769	0.0110	0.0027	0.0000	0.0000
0.6593	0.0110	0.0031	0.0000	0.0000

0.7418	0.0110	0.0034	0.0000	0.0000
0.8242	0.0110	0.0038	0.0000	0.0000
0.9066	0.0110	0.0042	0.0000	0.0000
0.9890	0.0110	0.0046	0.0000	0.0000
1.0714	0.0110	0.0050	0.0000	0.0000
1.1538	0.0110	0.0053	0.0000	0.0000
1.2363	0.0110	0.0057	0.0000	0.0000
1.3187	0.0110	0.0061	0.0000	0.0000
1.4011	0.0110	0.0065	0.0000	0.0000
1.4835	0.0110	0.0069	0.0000	0.0000
1.5659	0.0110	0.0072	0.0000	0.0000
1.6484	0.0110	0.0076	0.0000	0.0000
1.7308	0.0110	0.0080	0.0000	0.0000
1.8132	0.0110	0.0084	0.0000	0.0000
1.8956	0.0110	0.0088	0.0000	0.0000
1.9780	0.0110	0.0092	0.0000	0.0000
2.0604	0.0110	0.0095	0.0000	0.0000
2.1429	0.0110	0.0099	0.0000	0.0000
2.2253	0.0110	0.0103	0.0000	0.0000
2.3077	0.0110	0.0107	0.0000	0.0000
2.3901	0.0110	0.0111	0.0000	0.0000
2.4725	0.0110	0.0114	0.0000	0.0000
2.5549	0.0110	0.0118	0.0000	0.0000
2.6374	0.0110	0.0122	0.0000	0.0000
2.7198	0.0110	0.0126	0.0000	0.0000
2.8022	0.0110	0.0130	0.0000	0.0000
2.8846	0.0110	0.0133	0.0000	0.0000
2.9670	0.0110	0.0137	0.0000	0.0000
3.0495	0.0110	0.0141	0.0000	0.0000
3.1319	0.0110	0.0145	0.0000	0.0000
3.2143	0.0110	0.0148	0.0000	0.0000
3.2967	0.0110	0.0152	0.0000	0.0000
3.3791	0.0110	0.0156	0.0000	0.0000
3.4615	0.0110	0.0160	0.0000	0.0000
3.5440	0.0110	0.0163	0.0000	0.0000
3.6264	0.0110	0.0167	0.0000	0.0000
3.7088	0.0110	0.0171	0.0000	0.0000
3.7912	0.0110	0.0175	0.0000	0.0000
3.8736	0.0110	0.0179	0.0000	0.0000
3.9560	0.0110	0.0182	0.0000	0.0000
4.0385	0.0110	0.0186	0.0000	0.0000
4.1209	0.0110	0.0190	0.0000	0.0000
4.2033	0.0110	0.0194	0.0000	0.0000
4.2857	0.0110	0.0197	0.0000	0.0000
4.3681	0.0110	0.0201	0.0000	0.0000
4.4505	0.0110	0.0205	0.0000	0.0000
4.5330	0.0110	0.0209	0.0000	0.0000
4.6154	0.0110	0.0212	0.0000	0.0000
4.6978	0.0110	0.0216	0.0000	0.0000
4.7802	0.0110	0.0220	0.0000	0.0000
4.8626	0.0110	0.0224	0.0000	0.0000
4.9451	0.0110	0.0227	0.0000	0.0000
5.0000	0.0110	0.0230	0.0000	0.0000

**F T Plante Surface 1 Hydraulic Table**

<u>Stage(feet)</u>	<u>Area(ac.)</u>	<u>Volume(ac-ft.)</u>	<u>Discharge(cfs)</u>	<u>To Amended(cfs)</u>	<u>Wetted Surface</u>
5.0000	0.0110	0.0230	0.0000	0.0013	0.0000

5.0824	0.0110	0.0239	0.0000	0.0013	0.0000
5.1648	0.0110	0.0248	0.0000	0.0013	0.0000
5.2473	0.0110	0.0257	0.0000	0.0013	0.0000
5.3297	0.0110	0.0266	0.0000	0.0013	0.0000
5.4121	0.0110	0.0275	0.0000	0.0013	0.0000
5.4945	0.0110	0.0285	0.0000	0.0013	0.0000
5.5769	0.0110	0.0294	0.0000	0.0013	0.0000
5.6593	0.0110	0.0303	0.0001	0.0013	0.0000
5.7418	0.0110	0.0312	0.0002	0.0013	0.0000
5.8242	0.0110	0.0321	0.0003	0.0013	0.0000
5.9066	0.0110	0.0330	0.0003	0.0013	0.0000
5.9890	0.0110	0.0339	0.0004	0.0013	0.0000
6.0714	0.0110	0.0348	0.0004	0.0013	0.0000
6.1538	0.0110	0.0357	0.0005	0.0013	0.0000
6.2363	0.0110	0.0366	0.0005	0.0013	0.0000
6.3187	0.0110	0.0375	0.0005	0.0013	0.0000
6.4011	0.0110	0.0384	0.0006	0.0013	0.0000
6.4835	0.0110	0.0393	0.0006	0.0013	0.0000
6.5659	0.0110	0.0403	0.0006	0.0013	0.0000
6.6484	0.0110	0.0412	0.0006	0.0013	0.0000
6.7308	0.0110	0.0421	0.0007	0.0013	0.0000
6.8132	0.0110	0.0430	0.0007	0.0013	0.0000
6.8956	0.0110	0.0439	0.0007	0.0013	0.0000
6.9780	0.0110	0.0448	0.0007	0.0013	0.0000
7.0604	0.0110	0.0457	0.0008	0.0013	0.0000
7.1429	0.0110	0.0466	0.0008	0.0013	0.0000
7.2253	0.0110	0.0475	0.0008	0.0013	0.0000
7.3077	0.0110	0.0484	0.0008	0.0013	0.0000
7.3901	0.0110	0.0493	0.0008	0.0013	0.0000
7.4725	0.0110	0.0502	0.0009	0.0013	0.0000
7.5000	0.0110	0.0505	0.0009	0.0013	0.0000

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**Name** : F T Plante Surface 1

**Element Flows To:**

**Outlet 1**                      **Outlet 2**  
F T Planter 1

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**ANALYSIS RESULTS**

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**Predeveloped Landuse Totals for POC #1**

**Total Pervious Area:0.133**

**Total Impervious Area:0**

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**Mitigated Landuse Totals for POC #1**

**Total Pervious Area:0**

**Total Impervious Area:0.133**

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Flow Frequency Return Periods for Predeveloped. POC #1	
<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.018008
5 year	0.040526
10 year	0.05228
25 year	0.1035

Flow Frequency Return Periods for Mitigated. POC #1	
<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.001008
5 year	0.025854
10 year	0.031421
25 year	0.042419

POC #1  
The Facility PASSED

The Facility PASSED.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0018	286	183	63	Pass
0.0023	251	173	68	Pass
0.0028	224	166	74	Pass
0.0033	209	162	77	Pass
0.0038	193	156	80	Pass
0.0044	179	148	82	Pass
0.0049	172	139	80	Pass
0.0054	164	136	82	Pass
0.0059	159	130	81	Pass
0.0064	147	130	88	Pass
0.0069	142	125	88	Pass
0.0074	133	121	90	Pass
0.0079	127	117	92	Pass
0.0084	124	113	91	Pass
0.0089	120	104	86	Pass
0.0094	117	103	88	Pass
0.0100	113	98	86	Pass
0.0105	106	96	90	Pass
0.0110	105	94	89	Pass
0.0115	100	91	91	Pass
0.0120	95	90	94	Pass
0.0125	89	87	97	Pass
0.0130	83	85	102	Pass
0.0135	81	80	98	Pass
0.0140	79	78	98	Pass
0.0145	77	72	93	Pass
0.0151	73	70	95	Pass
0.0156	71	69	97	Pass
0.0161	68	65	95	Pass
0.0166	62	60	96	Pass
0.0171	60	58	96	Pass
0.0176	57	56	98	Pass
0.0181	56	51	91	Pass
0.0186	56	49	87	Pass

0.0191	54	49	90	Pass
0.0196	54	44	81	Pass
0.0202	52	42	80	Pass
0.0207	51	39	76	Pass
0.0212	48	37	77	Pass
0.0217	47	37	78	Pass
0.0222	46	33	71	Pass
0.0227	43	31	72	Pass
0.0232	42	30	71	Pass
0.0237	41	28	68	Pass
0.0242	38	27	71	Pass
0.0247	34	24	70	Pass
0.0253	32	23	71	Pass
0.0258	30	21	70	Pass
0.0263	30	21	70	Pass
0.0268	30	21	70	Pass
0.0273	28	19	67	Pass
0.0278	28	19	67	Pass
0.0283	27	18	66	Pass
0.0288	27	16	59	Pass
0.0293	26	15	57	Pass
0.0298	26	13	50	Pass
0.0304	24	12	50	Pass
0.0309	24	11	45	Pass
0.0314	22	11	50	Pass
0.0319	21	7	33	Pass
0.0324	21	6	28	Pass
0.0329	20	6	30	Pass
0.0334	20	6	30	Pass
0.0339	20	6	30	Pass
0.0344	19	6	31	Pass
0.0349	19	6	31	Pass
0.0355	18	6	33	Pass
0.0360	17	6	35	Pass
0.0365	17	6	35	Pass
0.0370	16	6	37	Pass
0.0375	16	6	37	Pass
0.0380	16	6	37	Pass
0.0385	16	6	37	Pass
0.0390	15	6	40	Pass
0.0395	14	6	42	Pass
0.0400	14	4	28	Pass
0.0406	12	4	33	Pass
0.0411	12	4	33	Pass
0.0416	11	4	36	Pass
0.0421	11	4	36	Pass
0.0426	10	4	40	Pass
0.0431	9	4	44	Pass
0.0436	9	3	33	Pass
0.0441	9	3	33	Pass
0.0446	9	3	33	Pass
0.0451	9	3	33	Pass
0.0457	9	3	33	Pass
0.0462	9	3	33	Pass
0.0467	8	3	37	Pass
0.0472	8	2	25	Pass
0.0477	8	2	25	Pass

0.0482	7	2	28	Pass
0.0487	6	2	33	Pass
0.0492	6	2	33	Pass
0.0497	6	2	33	Pass
0.0502	5	2	40	Pass
0.0508	5	2	40	Pass
0.0513	5	2	40	Pass
0.0518	5	2	40	Pass
0.0523	4	2	50	Pass

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**Drawdown Time Results**

**Pond: F T Plante Surface 1**

<b>Days</b>	<b>Stage(feet)</b>	<b>Percent of Total Run Time</b>
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A

**Maximum Stage: 2.011**

**Drawdown Time: Less than 1 day**

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**Perln and Implnd Changes**

No changes have been made.

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**SDHM2015  
PROJECT REPORT**

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**Project Name:** Fire Station 50 Biofiltration Basin 3  
**Site Name:**  
**Site Address:**  
**City :**  
**Report Date:** 4/18/2016  
**Gage :** LINDBERG  
**Data Start :** 10/01/1959  
**Data End :** 09/30/2004  
**Precip Scale:** 1.00  
**Version :** 2015/09/23

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**Low Flow Threshold for POC 1 :** 10 Percent of the 2 Year

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**High Flow Threshold for POC 1:** 10 year

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**PREDEVELOPED LAND USE**

**Name :** Basin 1  
**Bypass:** No

**GroundWater:** No

<u>Pervious Land Use</u>	<u>acre</u>
D,Grass,STEEP(10-20)	.1749
<b>Pervious Total</b>	<b>0.1749</b>
<u>Impervious Land Use</u>	<u>acre</u>
<b>Impervious Total</b>	<b>0</b>
<b>Basin Total</b>	<b>0.1749</b>

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**Element Flows To:**

<b>Surface</b>	<b>Interflow</b>	<b>Groundwater</b>
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**MITIGATED LAND USE**

**Name :** Basin 1  
**Bypass:** No

**GroundWater:** No

<u>Pervious Land Use</u>	<u>acre</u>
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Pervious Total 0  
Impervious Land Use acre  
 IMPERVIOUS-MOD 0.1749  
 Impervious Total 0.1749  
 Basin Total 0.1749

Element Flows To:  
 Surface Interflow Groundwater  
 F T Plante Surface 1 F T Plante Surface 1

Name : F T Planter 1  
 Bottom Length: 60.00 ft.  
 Bottom Width: 10.00 ft.  
 Material thickness of first layer: 2.5  
 Material type for first layer: Amended 5 in/hr  
 Material thickness of second layer: 2.75  
 Material type for second layer: GRAVEL  
 Material thickness of third layer: 0  
 Material type for third layer: GRAVEL  
Underdrain used  
 Underdrain Diameter (feet): 0.33  
 Orifice Diameter (in.): 0.18  
 Offset (in.): 3  
 Flow Through Underdrain (ac-ft.): 4.215  
 Total Outflow (ac-ft.): 4.401  
 Percent Through Underdrain: 95.78  
Discharge Structure  
 Riser Height: 2.75 ft.  
 Riser Diameter: 6 in.

Element Flows To:  
 Outlet 1 Outlet 2

**F T Planter 1 Hydraulic Table**

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.0138	0.0000	0.0000	0.0000
0.0934	0.0138	0.0005	0.0000	0.0000
0.1868	0.0138	0.0011	0.0000	0.0000
0.2802	0.0138	0.0016	0.0000	0.0000
0.3736	0.0138	0.0022	0.0000	0.0000
0.4670	0.0138	0.0027	0.0000	0.0000
0.5604	0.0138	0.0032	0.0000	0.0000
0.6538	0.0138	0.0038	0.0000	0.0000
0.7473	0.0138	0.0043	0.0000	0.0000

0.8407	0.0138	0.0049	0.0000	0.0000
0.9341	0.0138	0.0054	0.0000	0.0000
1.0275	0.0138	0.0059	0.0000	0.0000
1.1209	0.0138	0.0065	0.0000	0.0000
1.2143	0.0138	0.0070	0.0000	0.0000
1.3077	0.0138	0.0076	0.0000	0.0000
1.4011	0.0138	0.0081	0.0000	0.0000
1.4945	0.0138	0.0086	0.0000	0.0000
1.5879	0.0138	0.0092	0.0000	0.0000
1.6813	0.0138	0.0097	0.0000	0.0000
1.7747	0.0138	0.0103	0.0000	0.0000
1.8681	0.0138	0.0108	0.0000	0.0000
1.9615	0.0138	0.0113	0.0000	0.0000
2.0549	0.0138	0.0119	0.0000	0.0000
2.1484	0.0138	0.0124	0.0000	0.0000
2.2418	0.0138	0.0130	0.0000	0.0000
2.3352	0.0138	0.0135	0.0000	0.0000
2.4286	0.0138	0.0140	0.0000	0.0000
2.5220	0.0138	0.0146	0.0000	0.0000
2.6154	0.0138	0.0151	0.0000	0.0000
2.7088	0.0138	0.0157	0.0000	0.0000
2.8022	0.0138	0.0162	0.0000	0.0000
2.8956	0.0138	0.0167	0.0000	0.0000
2.9890	0.0138	0.0173	0.0000	0.0000
3.0824	0.0138	0.0178	0.0000	0.0000
3.1758	0.0138	0.0183	0.0000	0.0000
3.2692	0.0138	0.0189	0.0000	0.0000
3.3626	0.0138	0.0194	0.0000	0.0000
3.4560	0.0138	0.0199	0.0000	0.0000
3.5495	0.0138	0.0205	0.0000	0.0000
3.6429	0.0138	0.0210	0.0000	0.0000
3.7363	0.0138	0.0215	0.0000	0.0000
3.8297	0.0138	0.0221	0.0000	0.0000
3.9231	0.0138	0.0226	0.0000	0.0000
4.0165	0.0138	0.0231	0.0000	0.0000
4.1099	0.0138	0.0237	0.0000	0.0000
4.2033	0.0138	0.0242	0.0000	0.0000
4.2967	0.0138	0.0247	0.0000	0.0000
4.3901	0.0138	0.0253	0.0000	0.0000
4.4835	0.0138	0.0258	0.0000	0.0000
4.5769	0.0138	0.0263	0.0000	0.0000
4.6703	0.0138	0.0269	0.0000	0.0000
4.7637	0.0138	0.0274	0.0000	0.0000
4.8571	0.0138	0.0279	0.0000	0.0000
4.9505	0.0138	0.0285	0.0000	0.0000
5.0440	0.0138	0.0290	0.0000	0.0000
5.1374	0.0138	0.0295	0.0000	0.0000
5.2308	0.0138	0.0301	0.0000	0.0000
5.2500	0.0138	0.0302	0.0000	0.0000

**F T Plante Surface 1 Hydraulic Table**

<u>Stage(feet)</u>	<u>Area(ac.)</u>	<u>Volume(ac-ft.)</u>	<u>Discharge(cfs)</u>	<u>To Amended(cfs)</u>	<u>Wetted Surface</u>
5.2500	0.0138	0.0302	0.0000	0.0014	0.0000
5.3434	0.0138	0.0315	0.0000	0.0014	0.0000
5.4368	0.0138	0.0328	0.0000	0.0014	0.0000
5.5302	0.0138	0.0340	0.0000	0.0014	0.0000
5.6236	0.0138	0.0353	0.0000	0.0014	0.0000

5.7170	0.0138	0.0366	0.0000	0.0014	0.0000
5.8104	0.0138	0.0379	0.0000	0.0014	0.0000
5.9038	0.0138	0.0392	0.0001	0.0014	0.0000
5.9973	0.0138	0.0405	0.0002	0.0014	0.0000
6.0907	0.0138	0.0418	0.0003	0.0014	0.0000
6.1841	0.0138	0.0430	0.0004	0.0014	0.0000
6.2775	0.0138	0.0443	0.0004	0.0014	0.0000
6.3709	0.0138	0.0456	0.0005	0.0014	0.0000
6.4643	0.0138	0.0469	0.0005	0.0014	0.0000
6.5577	0.0138	0.0482	0.0005	0.0014	0.0000
6.6511	0.0138	0.0495	0.0006	0.0014	0.0000
6.7445	0.0138	0.0508	0.0006	0.0014	0.0000
6.8379	0.0138	0.0520	0.0006	0.0014	0.0000
6.9313	0.0138	0.0533	0.0006	0.0014	0.0000
7.0247	0.0138	0.0546	0.0007	0.0014	0.0000
7.1181	0.0138	0.0559	0.0007	0.0014	0.0000
7.2115	0.0138	0.0572	0.0007	0.0014	0.0000
7.3049	0.0138	0.0585	0.0008	0.0014	0.0000
7.3984	0.0138	0.0598	0.0008	0.0014	0.0000
7.4918	0.0138	0.0611	0.0008	0.0014	0.0000
7.5852	0.0138	0.0623	0.0008	0.0014	0.0000
7.6786	0.0138	0.0636	0.0008	0.0014	0.0000
7.7720	0.0138	0.0649	0.0009	0.0014	0.0000
7.8654	0.0138	0.0662	0.0009	0.0014	0.0000
7.9588	0.0138	0.0675	0.0009	0.0014	0.0000
8.0522	0.0138	0.0688	0.0009	0.0014	0.0000
8.1456	0.0138	0.0701	0.0009	0.0014	0.0000
8.2390	0.0138	0.0713	0.0010	0.0014	0.0000
8.3324	0.0138	0.0726	0.0010	0.0014	0.0000
8.4258	0.0138	0.0739	0.0010	0.0014	0.0000
8.5000	0.0138	0.0749	0.0010	0.0014	0.0000

---

**Name** : F T Plante Surface 1

**Element Flows To:**

**Outlet 1**                      **Outlet 2**  
F T Planter 1

---

**ANALYSIS RESULTS**

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**Predeveloped Landuse Totals for POC #1**

**Total Pervious Area:0.1749**

**Total Impervious Area:0**

---

**Mitigated Landuse Totals for POC #1**

**Total Pervious Area:0**

**Total Impervious Area:0.1749**

---

Flow Frequency Return Periods for Predeveloped. POC #1	
<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.01973
5 year	0.040526
10 year	0.05228
25 year	0.1035

Flow Frequency Return Periods for Mitigated. POC #1	
<u>Return Period</u>	<u>Flow(cfs)</u>
2 year	0.001051
5 year	0.010601
10 year	0.037928
25 year	0.04762

POC #1  
The Facility PASSED

The Facility PASSED.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0020	274	160	58	Pass
0.0025	237	155	65	Pass
0.0030	220	141	64	Pass
0.0035	201	140	69	Pass
0.0040	185	137	74	Pass
0.0045	177	128	72	Pass
0.0050	170	121	71	Pass
0.0055	163	111	68	Pass
0.0060	158	102	64	Pass
0.0065	143	99	69	Pass
0.0071	138	96	69	Pass
0.0076	130	93	71	Pass
0.0081	125	92	73	Pass
0.0086	123	90	73	Pass
0.0091	119	87	73	Pass
0.0096	116	85	73	Pass
0.0101	112	84	75	Pass
0.0106	106	82	77	Pass
0.0111	104	77	74	Pass
0.0116	97	75	77	Pass
0.0121	94	71	75	Pass
0.0126	88	68	77	Pass
0.0132	82	67	81	Pass
0.0137	81	67	82	Pass
0.0142	78	65	83	Pass
0.0147	76	60	78	Pass
0.0152	73	59	80	Pass
0.0157	71	58	81	Pass
0.0162	67	56	83	Pass
0.0167	62	53	85	Pass
0.0172	59	53	89	Pass
0.0177	57	50	87	Pass
0.0182	56	49	87	Pass
0.0187	56	46	82	Pass

0.0193	54	44	81	Pass
0.0198	53	44	83	Pass
0.0203	52	44	84	Pass
0.0208	51	42	82	Pass
0.0213	47	42	89	Pass
0.0218	47	39	82	Pass
0.0223	45	37	82	Pass
0.0228	43	35	81	Pass
0.0233	42	32	76	Pass
0.0238	41	31	75	Pass
0.0243	38	31	81	Pass
0.0248	34	31	91	Pass
0.0253	31	31	100	Pass
0.0259	30	30	100	Pass
0.0264	30	30	100	Pass
0.0269	29	29	100	Pass
0.0274	28	27	96	Pass
0.0279	27	27	100	Pass
0.0284	27	24	88	Pass
0.0289	27	23	85	Pass
0.0294	26	23	88	Pass
0.0299	26	23	88	Pass
0.0304	24	22	91	Pass
0.0309	24	22	91	Pass
0.0314	22	22	100	Pass
0.0320	21	22	104	Pass
0.0325	21	22	104	Pass
0.0330	20	18	90	Pass
0.0335	20	17	85	Pass
0.0340	20	17	85	Pass
0.0345	19	15	78	Pass
0.0350	19	15	78	Pass
0.0355	18	14	77	Pass
0.0360	17	13	76	Pass
0.0365	17	13	76	Pass
0.0370	16	12	75	Pass
0.0375	16	12	75	Pass
0.0381	16	11	68	Pass
0.0386	16	10	62	Pass
0.0391	15	10	66	Pass
0.0396	14	9	64	Pass
0.0401	14	9	64	Pass
0.0406	12	9	75	Pass
0.0411	12	9	75	Pass
0.0416	11	8	72	Pass
0.0421	11	8	72	Pass
0.0426	10	8	80	Pass
0.0431	9	8	88	Pass
0.0436	9	8	88	Pass
0.0441	9	8	88	Pass
0.0447	9	8	88	Pass
0.0452	9	6	66	Pass
0.0457	9	6	66	Pass
0.0462	9	6	66	Pass
0.0467	8	6	75	Pass
0.0472	8	6	75	Pass
0.0477	8	6	75	Pass

0.0482	7	5	71	Pass
0.0487	6	5	83	Pass
0.0492	6	4	66	Pass
0.0497	6	4	66	Pass
0.0502	5	4	80	Pass
0.0508	5	4	80	Pass
0.0513	5	4	80	Pass
0.0518	5	4	80	Pass
0.0523	4	2	50	Pass

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**Drawdown Time Results**

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**Perlnd and Implnd Changes**

No changes have been made.

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# **ATTACHMENT 2 BACKUP FOR PDP HYDROMODIFICATION CONTROL MEASURES**

This is the cover sheet for Attachment 2.

Mark this box if this attachment is empty because the project is exempt from PDP hydromodification management requirements.

**Indicate which Items are Included:**

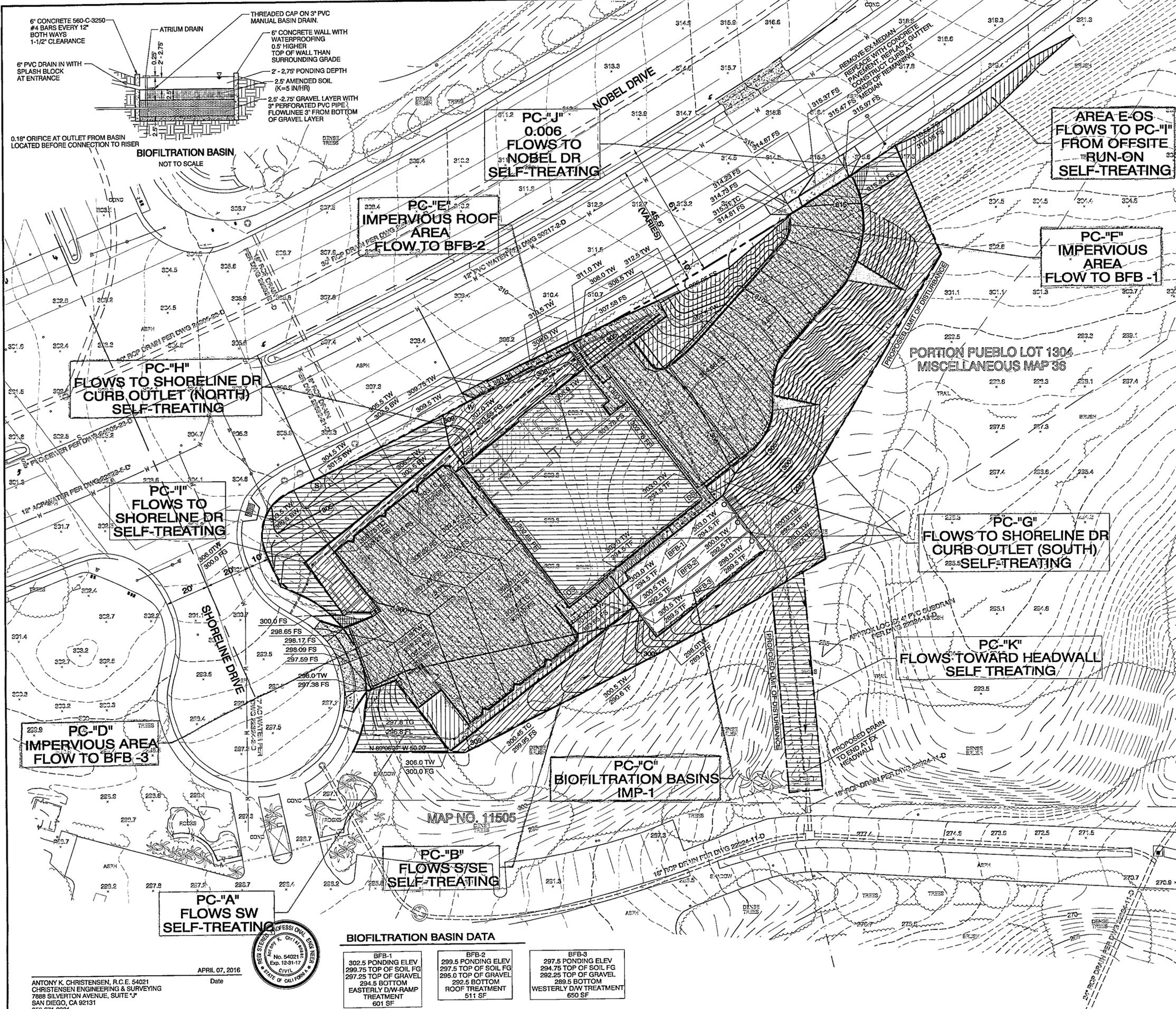
Attachment Sequence	Contents	Checklist
<b>Attachment 2a</b>	Hydromodification Management Exhibit (Required)	<input type="checkbox"/> Included See Hydromodification Management Exhibit Checklist.
<b>Attachment 2b</b>	Management of Critical Coarse Sediment Yield Areas (WMAA Exhibit is required, additional analyses are optional)  See Section 6.2 of the BMP Design Manual.	<input checked="" type="checkbox"/> Exhibit showing project drainage boundaries marked on WMAA Critical Coarse Sediment Yield Area Map (Required)  Optional analyses for Critical Coarse Sediment Yield Area Determination <input type="checkbox"/> 6.2.1 Verification of Geomorphic Landscape Units Onsite <input type="checkbox"/> 6.2.2 Downstream Systems Sensitivity to Coarse Sediment <input type="checkbox"/> 6.2.3 Optional Additional Analysis of Potential Critical Coarse Sediment Yield Areas Onsite <input checked="" type="checkbox"/> Not performed
<b>Attachment 2c</b>	Geomorphic Assessment of Receiving Channels (Optional)  See Section 6.3.4 of the BMP Design Manual.	<input type="checkbox"/> Included  <input type="checkbox"/> Submitted as separate stand-alone document
<b>Attachment 2d</b>	Flow Control Facility Design and Structural BMP Drawdown Calculations (Required)  Overflow Design Summary for each structural BMP  See Chapter 6 and Appendix G of the BMP Design Manual	<input checked="" type="checkbox"/> Included in SDHM (see 1e)  <input type="checkbox"/> Submitted as separate stand-alone document
<b>Attachment 2e</b>	Vector Control Plan (Required when structural BMPs will not drain in 96 hours)	<input type="checkbox"/> Included <input checked="" type="checkbox"/> Not required because BMPs will drain in less than 96 hours

**Use this checklist to ensure the required information has been included on the Hydromodification Management Exhibit:**

The Hydromodification Management Exhibit must identify:

- Underlying hydrologic soil group
- Approximate depth to groundwater
- Existing natural hydrologic features (watercourses, seeps, springs, wetlands)
- Critical coarse sediment yield areas to be protected
- Existing topography
- Existing and proposed site drainage network and connections to drainage offsite
- Proposed grading
- Proposed impervious features
- Proposed design features and surface treatments used to minimize imperviousness
- Point(s) of Compliance (POC) for Hydromodification Management
- Existing and proposed drainage boundary and drainage area to each POC (when necessary, create separate exhibits for pre-development and post-project conditions)
- Structural BMPs for hydromodification management (identify location, type of BMP, and size/detail)

# HYDROMODIFICATION EXHIBIT



- EXHIBIT CHECKLIST:**
- HYDROLOGIC SOIL GROUP: "D" (UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICES WEB SOIL SURVEY)
  - APPROXIMATE DEPTH TO GROUNDWATER: GREATER THAN 20'
  - EXISTING NATURAL HYDROLOGIC RESOURCES: NO WATERCOURSES, SEEP, SPRINGS OR WETLANDS EXIST IN THE PROJECT AREA
  - CRITICAL COARSE SEDIMENT YIELD AREAS: POTENTIAL CCSYAs (PCCSYAs) OCCUR ONSITE BUT IMPROVEMENTS DO NOT IMPACT THESE POTENTIAL AREAS
  - EXISTING TOPOGRAPHY AND IMPERVIOUS AREAS: TOPOGRAPHY IS SHOWN NO IMPERVIOUS AREAS EXIST IN THE AREA TO BE DEVELOPED
  - EXISTING AND PROPOSED SITE DRAINAGE NETWORK AND CONNECTIONS TO DRAINAGE OFFSITE: NO ONSITE DRAINAGE NETWORK EXISTS PROPOSED NETWORK IS SHOWN OFFSITE DRAIN CONNECTION IS SHOWN
  - PROPOSED GRADING: IS SHOWN ON DMA MAP
  - PROPOSED IMPERVIOUS FEATURES: IMPERVIOUS ROOF/PAVING IS SHOWN
  - PROPOSED DESIGN FEATURES AND SURFACE TREATMENTS USED TO MINIMIZE IMPERVIOUSNESS: ARE SHOWN AND LANDSCAPED AREAS ARE USED TO MINIMIZE IMPERVIOUSNESS.
  - POINT(S) OF COMPLIANCE (POC) FOR HYDROMODIFICATION MANAGEMENT: IS THE OUTLET FROM BIORETENTION BASINS
  - EXISTING AND PROPOSED DRAINAGE BOUNDARY AND DRAINAGE AREA TO EACH POC: SHOWN AS DMA-C OUTLET AT EX HEADWALL DRAINS BY SHEET FLOW PRIOR TO DEVELOPMENT FOLLOWING DEVELOPMENT SEE DRAINAGE STUDY FOR DRAINAGE AREA
  - STRUCTURAL BMPs FOR HYDROMODIFICATION MANAGEMENT: SHOWN AS IMP-1

**DMA TABLE**

ID #	AREA	TYPE OF SURFACE	DMA TYPE
DMA-A	0.019 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-B	0.187 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-C	0.043 AC	IMP-1 BFBs	(SELF-TREATING)
DMA-D	0.175 AC	PARKING AREA	FLOWS TO BFB-3
DMA-E	0.181 AC	ROOF AREA	FLOWS TO BFB-2
DMA-F	0.181 AC	PARKING AREA	FLOWS TO BFB-1
DMA-G	0.053 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-H	0.044 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-I	0.057 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-J	0.006 AC	LANDSCAPED AREA	(SELF-TREATING)
DMAE-0S	0.017 AC	LANDSCAPED AREA	(SELF-TREATING)
DMA-K	0.032 AC	LANDSCAPED AREA	(SELF-TREATING)

**SARFIE RABINES ARCHITECTS**  
 885 FORT STOCKTON DRIVE  
 SAN DIEGO, CA 92116  
 619.297.8103  
 SRARCH@SARFIERABINES.COM

**PRELIMINARY GRADING PLAN**  
**PLANS FOR THE CONSTRUCTION OF**  
**FIRE STATION 50**  
 SE CORNER OF NOBEL DR. AND SHORELINE DR.

**CITY OF SAN DIEGO, CALIFORNIA**  
 PUBLIC WORKS DEPARTMENT  
 SHEET OF SHEETS

**SCALE**  
 1" = 20' - 0"

**WATER WBS** S-13021  
**SEWER WBS** X-XXXXX

**APPROVED:**  
 FOR CITY ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 PRINT NAME \_\_\_\_\_ RC# \_\_\_\_\_  
 DESCRIPTION BY APPROVED DATE FILMED  
 ORIGINAL XXXX

**DESIGNED BY:** ALI DARVISHI SENIOR ENGINEER  
**CHECKED BY:** SHIVASHI HAGHGAH PROJECT MANAGER  
**PROJECT NO:** 254-1707  
**DATE:** CCS27 COORDINATE  
**DATE:** 6274-1897  
**DATE:** CCS83 COORDINATE

**CONTRACTOR** \_\_\_\_\_ **DATE STARTED** \_\_\_\_\_  
**INSPECTOR** \_\_\_\_\_ **DATE COMPLETED** \_\_\_\_\_

**C1.2**

North University City Fire Station 50 Design - Build  
 Exhibit J - Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) And  
 Storm Water Requirements Applicability Checklist DS-560

SAN DIEGO FIRE STATION 50

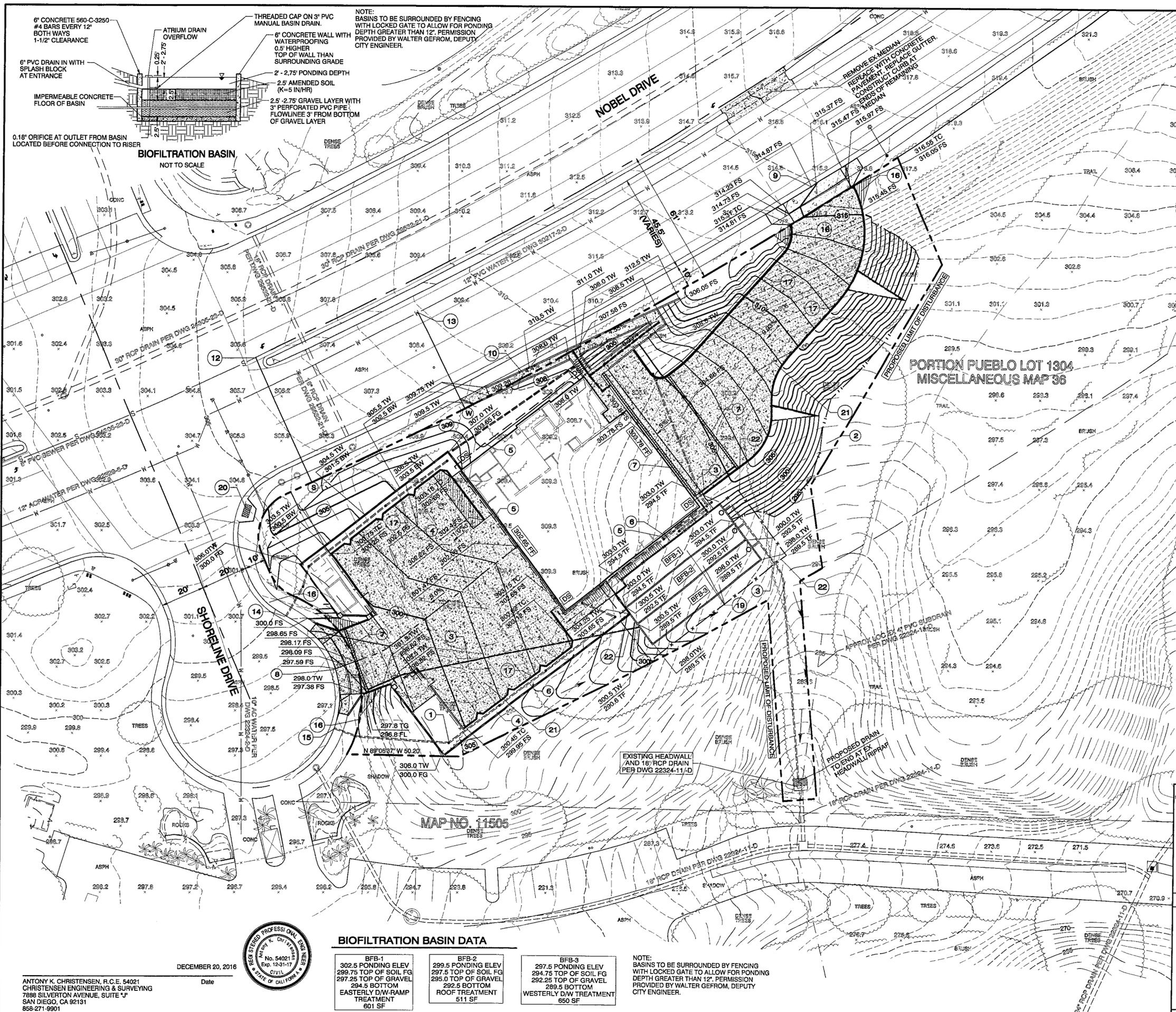
# WMAA CRITICAL COARSE SEDIMENT MAP

Fire Station 50



# **ATTACHMENT 3 STRUCTURAL BMP MAINTENANCE INFORMATION**

This is the cover sheet for Attachment 3.



### CONSTRUCTION NOTES

- 1 AREA DRAIN (TYPICAL)
- 2 LANDSCAPED AREA (SEE LANDSCAPE PLAN)
- 3 IMPERVIOUS SURFACE DRAIN SYSTEM
- 4 RETAINING WALL (TYPICAL)
- 5 ROOF DOWNSPOUTE DRAIN SYSTEM (CLOSED SYSTEM)
- 6 PERVIOUS SURFACE DRAIN SYSTEM
- 7 12" TRENCH DRAIN (TRAFFIC GRATE)
- 8 PROPOSED 27" DRIVEWAY PER SDG-163
- 9 PROPOSED 30" DRIVEWAY PER SDG-163
- 10 PEDESTRIAN RAMP
- 11 PROPOSED MEDIAN OPENING
- 12 PROPOSED 4" PVC SEWER LATERAL (291.4 IE @ MAIN)
- 13 PROPOSED WATER SERVICE
- 14 CURB OUTLET PER D-25  
Q100 = CFS  
V100 = FFS
- 15 CURB OUTLET PER D-25  
Q100 = CFS  
V100 = FFS
- 16 VISIBILITY TRIANGLE AREA  
NOTHING GREATER THAN 36" IN HEIGHT ALLOWED  
IN THIS AREA
- 17 TYPE "G" CURB, NO GUTTER
- 18 EXISTING STREET LIGHT TO REMAIN
- 19 BIOFILTRATION BASIN (TYPICAL)  
SEE FENCING REQUIREMENT NOTE AT  
UPPER RIGHT DETAIL
- 20 REMOVE AND REPLACE EX CURB RAMP PER SDG-130 & 132
- 21 6" PCC SURFACE. ACTUAL SECTION TO BE DETERMINED BY  
GEOTECHNICAL CONSULTANT AT TIME OF GRADING
- 22 SECURITY FENCE WITH LOCKED GATE SURROUNDING  
BIOFILTRATION BASINS

### GRADING DATA

AREA OF SITE - 34.1 AC (PROPOSED SITE AREA 0.914 AC)  
 AREA OF SITE TO BE GRADED: 0.7988 AC  
 PERCENT OF SITE TO BE GRADED: 87.4%

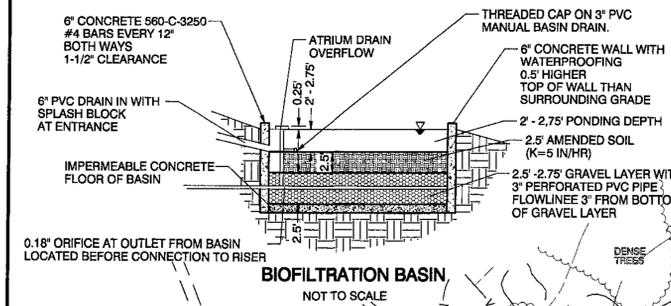
AMOUNT OF CUT - 4,300 C.Y.  
 AMOUNT OF FILL - 1,600 C.Y.  
 AMOUNT OF EXPORT - 1,700 C.Y.  
 MAXIMUM FILL - 11 FEET  
 MAXIMUM CUT - 10 FEET  
 MAXIMUM HEIGHT OF FILL SLOPE - 11 FEET  
 MAXIMUM HEIGHT OF CUT SLOPE - 4 FEET  
 RETAINING WALL: 6 FEET MAX HT, 290 FEET LONG

EARTHWORK CALCULATIONS ARE APPROXIMATE AND TO FINISH GRADE USING:  
 16" FOR EQUIPMENT BAY  
 8" FOR BUILDING  
 6" FOR DRIVEWAY

FOR PROJECT SITE:  
 PRE-CONSTRUCTION IMPERVIOUSNESS 0 AC (0%)  
 POST-CONSTRUCTION IMPERVIOUSNESS 0.473 AC (0.473/0.914 AC = 51.8%)

### NOTES

1. UNDERGROUND UTILITIES ARE SHOWN AT RECORD LOCATIONS AS OBTAINED FROM CITY OF SAN DIEGO IMPROVEMENT PLANS. ACTUAL STRUCTURES AND LOCATION WILL NEED TO BE VERIFIED IN THE FIELD BY CONTRACTOR AND/OR UTILITY SPECIALISTS.
2. THE SOURCE OF THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS FROM SURVEY BY CHRISTENSEN ENGINEERING & SURVEYING, DATED 05-14-15.
3. TREATMENT OF RUNOFF FROM IMPERVIOUS SURFACES SHALL BE BY FLOW THROUGH PLANTERS AS SHOWN. ROOF RUNOFF SHALL BE CONVEYED THROUGH A CLOSED SYSTEM TO THE BRB.
4. AN ENCROACHMENT MAINTENANCE AND REMOVAL AGREEMENT WILL BE REQUIRED FOR PRIVATE CURB OUTLETS IN SHORELINE DRIVE RIGHT OF WAY AND FOR PRIVATE PEDESTRIAN RAMP IN NOBEL DRIVE
5. THIS PROJECT WILL NOT DISCHARGE ANY INCREASE IN STORM WATER RUNOFF ONTO THE EXISTING HILLSIDE AREA.
6. AT THE STORM WATER DISCHARGE LOCATIONS, SUITABLE ENERGY DISSIPATORS ARE TO BE INSTALLED TO REDUCE DISCHARGE TO NON-ERODIBLE VELOCITIES.
7. NO ADDITIONAL RUN-OFF IS PROPOSED FOR THE DISCHARGE LOCATIONS.



NOTE: BASINS TO BE SURROUNDED BY FENCING WITH LOCKED GATE TO ALLOW FOR PONDING DEPTH GREATER THAN 12". PERMISSION PROVIDED BY WALTER GEFROM, DEPUTY CITY ENGINEER.

**BIOFILTRATION BASIN**  
NOT TO SCALE

ANTHONY K. CHRISTENSEN, R.C.E. 54021  
 CHRISTENSEN ENGINEERING & SURVEYING  
 7888 SILVERTON AVENUE, SUITE 100  
 SAN DIEGO, CA 92131  
 858-271-9901

Date  
 DECEMBER 20, 2016



BIOFILTRATION BASIN DATA	
BFB-1 302.5 PONDING ELEV 299.75 TOP OF SOIL FG 297.25 TOP OF GRAVEL 294.5 BOTTOM EASTERLY D/W-RAMP TREATMENT 601 SF	BFB-2 299.5 PONDING ELEV 297.5 TOP OF SOIL FG 295.0 TOP OF GRAVEL 292.5 BOTTOM ROOF TREATMENT 511 SF
BFB-3 297.5 PONDING ELEV 294.75 TOP OF SOIL FG 292.25 TOP OF GRAVEL 289.5 BOTTOM WESTERLY D/W TREATMENT 650 SF	

NOTE: BASINS TO BE SURROUNDED BY FENCING WITH LOCKED GATE TO ALLOW FOR PONDING DEPTH GREATER THAN 12". PERMISSION PROVIDED BY WALTER GEFROM, DEPUTY CITY ENGINEER.

SAPDIE RABINES ARCHITECTS  
 828 FORT STOCKTON DRIVE  
 SAN DIEGO, CA 92113  
 619-597-8115  
 SRARCH@SAPDIERABINES.COM

SCALE  
 1" = 20' - 0"

SPEC. NO.  
 \_\_\_\_\_

CONTRACTOR  
 \_\_\_\_\_

INSPECTOR  
 \_\_\_\_\_

PRELIMINARY GRADING PLAN		04 - D
BRIDGING DOCUMENTS FOR <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.		
CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET OF SHEETS		WATER WBS S-13021 SEWER WBS X-XXXXX
FOR CITY ENGINEER	DATE	DESIGNED BY JASON GRANI SENIOR ENGINEER
PRINT NAME	RCE#	CHECKED BY JASIAH NEFF PROJECT MANAGER
DESCRIPTION	BY	APPROVED
DATE	FILMED	
ORIGINAL	XXXX	
		254-1707 CCS27 COORDINATE
		6274-1897 CCS83 COORDINATE
		04 - D
CONTRACTOR	DATE STARTED	
INSPECTOR	DATE COMPLETED	

SAN DIEGO FIRE STATION 50

# STORM WATER NOTES

1. PRIOR TO ISSUANCE OF ANY CONSTRUCTION PERMIT, THE OWNER/PERMITEE SHALL ENTER A MAINTENANCE AGREEMENT FOR THE ONGOING PERMANENT BMP MAINTENANCE, SATISFACTORY TO THE CITY ENGINEER.
2. PRIOR TO ISSUANCE OF ANY CONSTRUCTION PERMIT, THE OWNER/PERMITEE SHALL INCORPORATE ANY CONSTRUCTION BEST MANAGEMENT PRACTICES NECESSARY TO COMPLY WITH CHAPTER 14, ARTICLE 2, DIVISION 1 (GRADING REGULATIONS) OF THE SAN DIEGO MUNICIPAL CODE, INTO THE CONSTRUCTION PLANS OR SPECIFICATIONS.
3. PRIOR TO ISSUANCE OF ANY CONSTRUCTION PERMIT, THE APPLICANT SHALL SUBMIT A TECHNICAL REPORT THAT WILL BE SUBJECT TO FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER, BASED ON THE STORM WATER STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION PERMIT ISSUANCE. PLANTERS AS SHOWN.
4. DEVELOPMENT OF THIS PROJECT SHALL COMPLY WITH ALL STORM WATER CONSTRUCTION REQUIREMENTS OF THE STATE CONSTRUCTION GENERAL PERMIT, ORDER NO. 2009-0009DWQ, OR SUBSEQUENT ORDER, AND THE MUNICIPAL STORM WATER PERMIT, ORDER NO. R9-2007-0001, OR SUBSEQUENT ORDER. IN ACCORDANCE WITH ORDER NO. 2009-0009DWQ, OR SUBSEQUENT ORDER, RISK LEVEL DETERMINATION SHALL BE CALCULATED FOR THE SITE AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE IMPLEMENTED CONCURRENTLY WITH THE COMMENCEMENT OF GRADING ACTIVITIES.
5. PRIOR TO ISSUANCE OF A GRADING OR A CONSTRUCTION PERMIT, A COPY OF THE NOTICE OF INTENT (NOI) WITH A VALID WASTE DISCHARGE ID NUMBER (WVID#) SHALL BE SUBMITTED TO THE CITY OF SAN DIEGO AS A PROOF OF ENROLLMENT UNDER THE CONSTRUCTION GENERAL PERMIT. WHEN OWNERSHIP OF THE ENTIRE SITE OR PORTIONS OF THE SITE CHANGES PRIOR TO FILING OF THE NOTICE OF TERMINATION (NOT), A REVISED NOI SHALL BE SUBMITTED ELECTRONICALLY TO THE STATE WATER RESOURCES BOARD IN ACCORDANCE WITH THE PROVISIONS AS SET FORTH IN SECTION II.C OF ORDER NO. 2009-0009-DWQ AND A COPY SHALL BE SUBMITTED TO THE CITY.

SAFDIE RABINES ARCHITECTS  926 FORT STOCKTON DRIVE SAN DIEGO, CA 92118 619-597-6158 SRARCH@SAF-DIERABINES.COM	<b>05 - D</b>																					
	SCALE 1" = 20' - 0"																					
<b>BRIDGING DOCUMENTS FOR FIRE STATION 50</b>  SE CORNER OF NOBEL DR. AND SHORELINE DR.																						
SPEC. NO.	<b>CITY OF SAN DIEGO, CALIFORNIA</b> PUBLIC WORKS DEPARTMENT SHEET OF SHEETS	WATER WBS <b>S-13021</b> SEWER WBS <b>X-XXXXX</b>																				
APPROVED: FOR CITY ENGINEER _____ DATE _____ PRINT NAME _____ RCE# _____		DESIGNED BY: JASON GRANI SENIOR ENGINEER CHECKED BY: JASIAH NEFF PROJECT MANAGER																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DESCRIPTION</th> <th>BY</th> <th>APPROVED</th> <th>DATE</th> <th>FILMED</th> </tr> </thead> <tbody> <tr> <td>ORIGINAL</td> <td>xx/xx</td> <td></td> <td></td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		DESCRIPTION	BY	APPROVED	DATE	FILMED	ORIGINAL	xx/xx														254-1707 CCS27 COORDINATE 6274-1897 CCS83 COORDINATE
DESCRIPTION	BY	APPROVED	DATE	FILMED																		
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SAN DIEGO FIRE STATION 50

**Indicate which Items are Included:**

Attachment Sequence	Contents	Checklist
<b>Attachment 3a</b>	Structural BMP Maintenance Thresholds and Actions (Required)	<input checked="" type="checkbox"/> Included See Structural BMP Maintenance Information Checklist.
<b>Attachment 3b</b>	Maintenance Agreement (Form DS-3247) (when applicable)	<input checked="" type="checkbox"/> Included <input type="checkbox"/> Not Applicable

**Use this checklist to ensure the required information has been included in the Structural BMP  
Maintenance Information Attachment:**

**Preliminary Design / Planning / CEQA level submittal:**

- Attachment 3a must identify:
    - Typical maintenance indicators and actions for proposed structural BMP(s) based on Section 7.7 of the BMP Design Manual
  - Attachment 3b is not required for preliminary design / planning / CEQA level submittal.
-

**Final Design level submittal:**

**Attachment 3a** must identify:

- Specific maintenance indicators and actions for proposed structural BMP(s). This shall be based on Section 7.7 of the BMP Design Manual and enhanced to reflect actual proposed components of the structural BMP(s)
- How to access the structural BMP(s) to inspect and perform maintenance
- Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- When applicable, frequency of biofiltration soil media replacement.
- Recommended equipment to perform maintenance
- When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management

**Attachment 3b:** For private entity operation and maintenance, Attachment 3b must include a Storm Water Management and Discharge Control Maintenance Agreement (Form DS-3247). The following information must be included in the exhibits attached to the maintenance agreement:

- Vicinity map
- Site design BMPs for which DCV reduction is claimed for meeting the pollutant control obligations.
- BMP and HMP location and dimensions
- BMP and HMP specifications/cross section/model
- Maintenance recommendations and frequency
- LID features such as (permeable paver and LS location, dim, SF).

**Biofiltration Basin Maintenance Plan**  
**for**  
**Fire Station 50**  
**April 19, 2016**

Project Address and Cross Streets Nobel Drive at Shoreline Drive

Assessor's Parcel No.: 345-010-03-00

BMP Owner: City of San Diego Phone No.: \_\_\_\_\_

Designated Contact: \_\_\_\_\_ Phone No.: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

The property contains three Biofiltration Basins, located as described below and as shown in the attached site plan<sup>1</sup>.

**Biofiltration Basins (1,2 &3) are located southerly of the fire station structure.**

**I. Routine Maintenance Activities**

The principal maintenance objectives are to ensure that water flows unimpeded into the Biofiltration Basin and landscaping remains attractive in appearance. Table 1 shows the routine maintenance activities, and the frequency at which they will be conducted.

<b>Table 1</b> <b>Routine Maintenance Activities for Biofiltration Basins</b>		
<b>No.</b>	<b>Maintenance Task</b>	<b>Frequency of Task</b>
1	Evaluate health of vegetation. Remove and replace all dead and diseased vegetation. Treat vegetation using preventative and low-toxic methods.	Twice a year
2	Maintain the vegetation and irrigation system. Prune and weed to keep flow-through basin neat and orderly in appearance.	As needed
4	Check that there is sufficient biotreatment soil media (depth as shown on plan). Check that soil is at the appropriate level to allow water to temporarily pond above soil surface (depth as shown on plan).	Before wet season and as necessary
5	Remove accumulated sediment, litter and debris from Biofiltration Basin and dispose of properly. Replenish mulch as needed.	Before wet season and as necessary
6	Inspect Biofiltration Basin to ensure that there are no clogs.	Monthly during the wet season, and as needed after storm events
7	Inspect downspouts from rooftops and sheet flow from paved areas to ensure flow to basin is unimpeded. Remove debris and repair damaged pipes. Check splash blocks or rocks and repair, replace and replenish as necessary.	Monthly during the wet season, and as needed after storm events
8	Inspect overflow pipe to ensure that it will safely convey excess flows to storm drain. Repair or replace any damaged or disconnected piping.	Before the wet season, and as necessary
9	Inspect Biofiltration Basin to ensure that it is structurally sound (no cracks or leaks). Repair as necessary.	Monthly during the wet season, and as needed after storm events
10	Inspect Biofiltration Basin using the attached inspection checklist.	Monthly, or after large storm events, and after removal of accumulated debris or material

<sup>1</sup> See Project Exhibit

## **II. Use of Pesticides**

The use of pesticides and quick release fertilizers shall be minimized, and the principles of integrated pest management (IPM) followed:

1. Employ non-chemical controls (biological, physical and cultural controls) before using chemicals to treat a pest problem.
2. Prune plants properly and at the appropriate time of year.
3. Provide adequate irrigation for landscape plants. Do not over water.
4. Limit fertilizer use unless soil testing indicates a deficiency. Slow-release or organic fertilizer is preferable. Check with municipality for specific requirements.
5. Pest control should avoid harming non-target organisms, or negatively affecting air and water quality and public health. Apply chemical controls only when monitoring indicates that preventative and non-chemical methods are not keeping pests below acceptable levels. When pesticides are required, apply the least toxic and the least persistent pesticide that will provide adequate pest control. Do not apply pesticides on a prescheduled basis.
6. Sweep up spilled fertilizer and pesticides. Do not wash away or bury such spills.
7. Do not over apply pesticide. Spray only where the infestation exists. Follow the manufacturer's instructions for mixing and applying materials.
8. Only licensed, trained pesticide applicators shall apply pesticides.
9. Apply pesticides at the appropriate time to maximize their effectiveness and minimize the likelihood of discharging pesticides into runoff. With the exception of pre-emergent pesticides, avoid application if rain is expected.
10. Unwanted/unused pesticides shall be disposed as hazardous waste.

## **III. Vector Control**

Standing water shall not remain in the treatment measures for more than four days, to prevent mosquito generation. Should any mosquito issues arise, contact San Diego County Vector Control. Mosquito larvicides shall be applied only when absolutely necessary, as indicated by the District, and then only by a licensed professional or contractor.

## **IV. Inspections**

The attached Biofiltration Basin Inspection and Maintenance Checklist shall be used to conduct inspections monthly (or as needed), identify needed maintenance, and record maintenance that is conducted.

## **V. Access, Observation and Soil Media Replacement**

The Basin can be accessed by the driveway to the telecommunication facility. There is a separate capped pipe to be used to drain ponding area should the drain or orifice clog. Otherwise the basin is typical in design. Soil media is to be assessed every five years for possible replacement. Soil not replaced at five years should be reassessed every year thereafter. Should soil need to be replaced it should be removed and replaced using hand tools or small excavators. A firm specializing in BMP construction/ maintenance shall be employed to maintain the basin.

## Biofiltration Basin Inspection and Maintenance Checklist

Property Address: Noble Drive at Shoreline Drive

BMP Owner: Verizon Wireless

Treatment Measure No.: \_\_\_\_\_ Date of Inspection: \_\_\_\_\_ Type of Inspection:  Monthly  Pre-Wet Season  
 After heavy runoff  End of Wet Season  
 Inspector(s): \_\_\_\_\_ Other: \_\_\_\_\_

Defect	Conditions When Maintenance Is Needed	Maintenance Needed? (Y/N)	Comments (Describe maintenance completed and if needed maintenance was not conducted, note when it will be done)	Results Expected When Maintenance Is Performed
1. Vegetation	Vegetation is dead, diseased and/or overgrown.			Vegetation is healthy and attractive in appearance.
2. Soil	Soil too deep or too shallow.			Soil is at proper depth (per soil specifications) for optimum filtration and flow.
3. Mulch	Mulch is missing or patchy in appearance.			Mulch is even in appearance.
4. Sediment, Trash and Debris Accumulation	Sediment, trash and debris accumulated in the Biofiltration basin. Basin does not drain within 3-4 hours.			Sediment, trash and debris removed from Biofiltration Basin and disposed of properly. Basin drains within 24 hours.
5. Clogs/Drainage	Basin does not drain within 24 hours after rainfall.			Basin drains per design specifications.
6. Downspouts and Sheet Flow	Flow to basin is impeded. Downspouts are clogged or pipes are damaged. Splash blocks and rocks in need of repair, replacement or replenishment.			Downspouts and sheet flow is conveyed efficiently to the basin.
7. Overflow Pipe	Does not safely convey excess flows to storm drain. Piping damaged or disconnected.			Overflow pipe conveys excess flow to storm drain efficiently.
8. Structural Soundness	Basin is cracked, leaking or falling apart.			Cracks and leaks are repaired and basin is structurally sound.
9. Miscellaneous	Any condition not covered above that needs attention in order for the flow-through basin to function as designed.			Meet the design specifications.



**THE CITY OF SAN DIEGO**  
 RECORDING REQUESTED BY:  
**THE CITY OF SAN DIEGO**  
 AND WHEN RECORDED MAIL TO:


(THIS SPACE IS FOR THE RECORDER'S USE ONLY)

**STORM WATER MANAGEMENT AND DISCHARGE CONTROL MAINTENANCE AGREEMENT**

<b>APPROVAL NUMBER:</b>	<b>ASSESSOR'S PARCEL NUMBER:</b>	<b>PROJECT NUMBER:</b>
-------------------------	----------------------------------	------------------------

This agreement is made by and between the City of San Diego, a municipal corporation [City] and the owner or duly authorized representative of the owner [Property Owner] of property located at:

(PROPERTY ADDRESS)  
 and more particularly described as:

(LEGAL DESCRIPTION OF PROPERTY)

in the City of San Diego, County of San Diego, State of California.

Property Owner is required pursuant to the City of San Diego Municipal Code, Chapter 4, Article 3, Division 3, Chapter 14, Article 2, Division 2, and the Land Development Manual, Storm Water Standards to enter into a Storm Water Management and Discharge Control Maintenance Agreement [Maintenance Agreement] for the installation and maintenance of Permanent Storm Water Best Management Practices [Permanent Storm Water BMP's] prior to the issuance of construction permits. The Maintenance Agreement is intended to ensure the establishment and maintenance of Permanent Storm Water BMP's onsite, as described in the attached exhibit(s), the project's Storm Water Quality Management Plan [SWQMP] and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s):

Property Owner wishes to obtain a building or engineering permit according to the Grading and/or Improvement Plan Drawing No(s) or Building Plan Project No(s):

**Continued on Page 2**

NOW, THEREFORE, the parties agree as follows:

1. Property Owner shall have prepared, or if qualified, shall prepare an Operation and Maintenance Procedure [OMP] for Permanent Storm Water BMP's, satisfactory to the City, according to the attached exhibit(s), consistent with the Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s):\_\_\_\_\_
2. Property Owner shall install, maintain and repair or replace all Permanent Storm Water BMP's within their property, according to the OMP guidelines as described in the attached exhibit(s), the project's WQTR and Grading and/or Improvement Plan Drawing No(s), or Building Plan Project No(s)\_\_\_\_\_.
3. Property Owner shall maintain operation and maintenance records for at least five (5) years. These records shall be made available to the City for inspection upon request at any time.

This Maintenance Agreement shall commence upon execution of this document by all parties named hereon, and shall run with the land.

Executed by the City of San Diego and by Property Owner in San Diego, California.

See Attached Exhibits(s):

<p>_____</p> <p style="text-align: center;">(Owner Signature)</p> <p>_____</p> <p style="text-align: center;">(Print Name and Title)</p> <p>_____</p> <p style="text-align: center;">(Company/Organization Name)</p> <p>_____</p> <p style="text-align: center;">(Date)</p>	<p><b>THE CITY OF SAN DIEGO</b></p> <p>APPROVED:</p> <p>_____</p> <p style="text-align: center;">(City Control engineer Signature)</p> <p>_____</p> <p style="text-align: center;">(Print Name)</p> <p>_____</p> <p style="text-align: center;">(Date)</p>
---	--

**NOTE: ALL SIGNATURES MUST INCLUDE NOTARY ACKNOWLEDGMENTS PER CIVIL CODE SEC. 1180 ET.SEQ**

**ATTACHMENT 4**  
**COPY OF PLAN SHEETS SHOWING**  
**PERMANENT STORM WATER BMPS**

This is the cover sheet for Attachment 4.

**Use this checklist to ensure the required information has been included on the plans:**

The plans must identify:

- Structural BMP(s) with ID numbers matching Form I-6 Summary of PDP Structural BMPs
- The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit
- Details and specifications for construction of structural BMP(s)
- Signage indicating the location and boundary of structural BMP(s) as required by the City Engineer
- How to access the structural BMP(s) to inspect and perform maintenance
- Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds)
- Manufacturer and part number for proprietary parts of structural BMP(s) when applicable
- Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP)
- Recommended equipment to perform maintenance
- When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management
- Include landscaping plan sheets showing vegetation requirements for vegetated structural BMP(s)
- All BMPs must be fully dimensioned on the plans
- When proprietary BMPs are used, site specific cross section with outflow, inflow and model number shall be provided. Broucher photocopies are not allowed.

# **ATTACHMENT 5 DRAINAGE REPORT**

Attach project's drainage report. Refer to Drainage Design Manual to determine the reporting requirements.

# **Drainage Study Fire Station 50**

**A Portion of Pueblo Lot 1304, MM 36  
(A portion of APN 345-010-03-00)**

**Prepared for:  
City of San Diego  
Public Works Department**

**Prepared by:  
Christensen Engineering & Surveying  
7888 Silverton Avenue, Suite "J"  
San Diego, CA 92126  
(858) 271-9901**

**PTS No. 463835**

**December 09, 2015  
Revised April 19, 2016**

**TABLE OF CONTENTS**

**INTRODUCTION .....2**

**CALCULATIONS.....4**

**INTENSITY CALCULATION .....4**

**COEFFICIENT DETERMINATION .....4**

**VOLUME CALCULATIONS .....6**

**DISCUSSION.....7**

**APPENDIX**

**“A” DRAINAGE STUDY ATTACHMENTS**

**“B” DRAINAGE AREA MAPS**

# ***Introduction***

This project involves the construction of Fire Station 50 for the City of San Diego on a vacant portion of Pueblo Lot 1304 and being a portion of Assessor Parcel Number 345-010-03-00. The proposed fire station site is shown on the attached drainage area maps as the proposed "lot". The project includes the construction of the fire station and appurtenances, including walkways, driveways, pedestrian ramp, drainage facilities and landscape and irrigation, together with flow through planters to treat and detain runoff from impervious surfaces, onsite.

Appendix "A" contains drainage area maps from a topographic survey by Christensen Engineering and Surveying, prepared in April and May of 2015. In its existing state runoff from the site flows to the south, southwest and southeast, where it is picked up by a storm drain at a headwall along the southerly boundary APN 345-010-03-00 as shown on City of San Diego drawing 22324-11-D. Additional site runoff flows onto Shoreline Drive, westerly and southwesterly of the site and into a curb inlet within that cul-de-sac, shown on the same drawing. A small area of runoff from the site flows onto Nobel Drive and to a curb inlet at the southeast intersection of Nobel Drive and Shoreline Drive, as shown on drawing 29532-21-D. A small area of offsite runoff flows onto the site and is conveyed to Nobel Drive. Following construction the same general pattern of runoff and its collection continues. The impervious surface runoff is conveyed to three biofiltration basins, where it is treated and detained before being conveyed southerly to the aforementioned storm drain and headwall. The pervious surface runoff will flow to two curb outlets in Shoreline Drive and a portion of the site runoff and offsite runoff conveyed to the site will continue to flow onto Nobel Drive.

Runoff to the public storm drain system will increase by 0.36 cfs total for the entire site (2.00 cfs -1.64 cfs) with an increase to the drain and headwall southerly of the site of 0.40 cfs. The existing drain was checked for adequacy and found to be capable of conveying the additional runoff. There will be no adverse effect to the public storm drain. Rate of runoff will be attenuated so hydromodification will not occur.

Section 404 of CWA regulates the discharge of dredged or fill material into waters of the United States. Section 404 is regulated by the Army Corps of Engineers. Section 401 of CWA requires that the State provide certification

that any activity authorized under Section 404 is in compliance with effluent limits, the state's water quality standards, and any other appropriate requirements of state law. Section 401 is administered by the State Regional Water Quality Control Board. The project does not require a Federal CWA Section 404 permit nor Section 401 Certification because it does not cause dredging or filling in waters of the United States and is in compliance with the State Water Quality Standards.

The San Diego Hydrology Model software is used to size the biofiltration basins used to treat and detain runoff from the project site. The pre-development condition is used as the pre-mitigated state for comparison with the post-development state.

The Rational Method was used to calculate the anticipated flow for the 100-year storm return frequency event using the method outlined in the City of San Diego Drainage Design Manual.



Antony K. Christensen  
RCE 54021 Exp. 12-31-17

04-19-16  
Date

JN A2015-19



# Calculations

## 1. Intensity Calculation

### **Pre-Construction:**

(From the City of San Diego Drainage Design Manual, Page 84)

Tc = Time of concentration

$$= ((11.9 L^3)/(H))^{0.385}$$

Since the difference in elevation is 21' (310'-289') and the distance traveled is 155' (0.029 mi).

$$Tc = 0.4 \text{ minutes (0.007 hours)} = 0.4 \text{ minutes}$$

The manual instructs to add 10 minutes to the time of concentration so:

$$Tc = 10.4 \text{ minutes}$$

From table on Page 83

$$I_{100} = 3.9 \text{ inches}$$

### **Post-Construction:**

(From the City of San Diego Drainage Design Manual, Page 86)

Tc = Time of concentration (site undisturbed currently)

$$Tc = 1.8 (1.1-C) (D)^{1/2} / (S)^{1/3}$$

For Post-Construction C=0.57 (see C calculation below)

Since the difference in elevation is 33' (315'-290') and the distance traveled is 185', slope = 17.8%

$$Tc_{\text{post-construction}} = 5.0 \text{ minutes}$$

From table on Page 83

$I_{100 \text{ post-construction}} = 4.4 \text{ inches/hr}$

## 2. **Coefficient Determination**

Pre-Construction:  
From Page 82 for Rural

$C = 0.45$

Post construction:  
From Page 82 for Commercial

$C = 0.85$

Since site imperviousness is 0.473 acres and the site area for the project is 0.882 acres the percent imperviousness is 53.6%.

Therefore, using the weighted average method found on page 82 of the manual results in a C value of  $53.6/80 \times 0.85 = 0.569$

$C = 0.57$

## 3. **Volume calculations**

$Q = CIA$

### **Areas of Drainage**

The area of this study is the area of the proposed site and a small offsite are tributary to the site.

#### **Pre-Construction**

Area flowing to Shoreline Drive	$A = 0.222 \text{ Ac}$
Area flowing southwesterly	$B = 0.022 \text{ Ac}$
Area flowing southerly and southeasterly	$C = 0.604 \text{ Ac}$
Area flowing onto Nobel Drive	$D = 0.034 \text{ Ac}$
Area offsite flowing to Area D	$E\text{-OS} = 0.017 \text{ Ac}$
Area of proposed drain	$K = 0.032 \text{ Ac}$

[5]

### Post-Construction

Area flowing southwesterly	PC-A = 0.019 Ac
Area flowing southerly and southeasterly	PC-B = 0.187 Ac
Area of flow through planters	PC-C = 0.043 Ac
Area flowing to BRB-3	PC-D = 0.175 Ac
Area of roof flowing to BRB-2	PC-E = 0.137 Ac
Area flowing to BRB-1	PC-F = 0.161 Ac
Area flowing to Shoreline Dr (Southerly curb outlet)	PC-G = 0.053 Ac
Area flowing to Shoreline Dr (Northerly curb outlet)	PC-H = 0.044 Ac
Area flowing to Shoreline Dr	PC-I = 0.057 Ac
Area flowing to Nobel Dr	PC-J = 0.006 Ac
Area offsite flowing to Area PC-J	E-OS = 0.017 Ac
Area of proposed drain	K = 0.032 Ac

### Pre-Construction

Q <sub>100A</sub> = (0.45) (3.9) (0.222)
Q <sub>100B</sub> = (0.45) (3.9) (0.022)
Q <sub>100C</sub> = (0.45) (3.9) (0.604)
Q <sub>100D</sub> = (0.45) (3.9) (0.034)
Q <sub>100E-OS</sub> = (0.45) (3.9) (0.017)
Q <sub>100K</sub> = (0.45) (3.9) (0.032)

Q <sub>100A</sub> = 0.39 cfs
Q <sub>100B</sub> = 0.04 cfs
Q <sub>100C</sub> = 1.06 cfs
Q <sub>100D</sub> = 0.06 cfs
Q <sub>100E-OS</sub> = 0.03 cfs
Q <sub>100K</sub> = 0.06 cfs

### Post-Construction

Q <sub>100PC-A</sub> = (0.57) (4.4) (0.019)
Q <sub>100PC-B</sub> = (0.57) (4.4) (0.187)
Q <sub>100PC-C</sub> = (0.57) (4.4) (0.043)
Q <sub>100PC-D</sub> = (0.57) (4.4) (0.175))
Q <sub>100PC-E</sub> = (0.57) (4.4) (0.137)

Q<sub>100PC-F</sub> = (0.57) (4.4) (0.161)  
 Q<sub>100PC-G</sub> = (0.57) (4.4) (0.053)  
 Q<sub>100PC-H</sub> = (0.57) (4.4) (0.044)  
 Q<sub>100PC-I</sub> = (0.57) (4.4) (0.057)  
 Q<sub>100PC-J</sub> = (0.57) (4.4) (0.006)  
 Q<sub>100E-OS</sub> = (0.45) (3.9) (0.017) (no change due to development)  
 Q<sub>100PC-K</sub> = (0.45) (3.9) (0.032)

Q<sub>100PC-A</sub> = 0.05 cfs  
 Q<sub>100PC-B</sub> = 0.17 cfs  
 Q<sub>100PC-C</sub> = 0.11 cfs  
 Q<sub>100PC-D</sub> = 0.44 cfs  
 Q<sub>100PC-E</sub> = 0.34 cfs  
 Q<sub>100PC-F</sub> = 0.40 cfs  
 Q<sub>100PC-G</sub> = 0.13 cfs  
 Q<sub>100PC-H</sub> = 0.11 cfs  
 Q<sub>100PC-I</sub> = 0.14 cfs  
 Q<sub>100PC-J</sub> = 0.02 cfs  
 Q<sub>100E-OS</sub> = 0.03 cfs (no change due to development)  
 Q<sub>100pc-K</sub> = 0.06 cfs (no change due to development)

#### **4. Discussion**

Due to the change in imperviousness there is a change in total runoff from the subject site from 1.64 cfs to 2.00 cfs, a difference of 0.36 cfs for the 100-yr return frequency storm volume. The flow to Shoreline Drive decreases by 0.01 cfs. The flow to the southwest increases by 0.01 cfs. The flow to the south and southeast increases by 0.40 cfs. The flow to Nobel Drive decreases by 0.04 cfs. Rate of flow will not increase due to detention of runoff by the biofiltration basins.

The storm drain and headwall southerly of the project site is shown on City dwg 22324-11-D to be an 18" RCP with a slope of 17.56% and conveying 6.17 cfs. The attached program was used to calculate the volume this drain is capable of conveying as well as the 24" RCP drain shown on the same sheet as having a slope of 2.29% and conveying 32.13 cfs (the most restrictive drain in this system and both were found to be capable of conveying this additional 0.40 cfs (18" can convey 44.13 cfs and the 24" RCP can convey 34.33 cfs ) Therefore the development will not have an adverse impact on the public storm drain system.

[7]

# APPENDIX “A”

# DRAINAGE STUDY ATTACHMENTS

**TABLE 2**

**RUNOFF COEFFICIENTS (RATIONAL METHOD)**

**DEVELOPED AREAS (URBAN)**

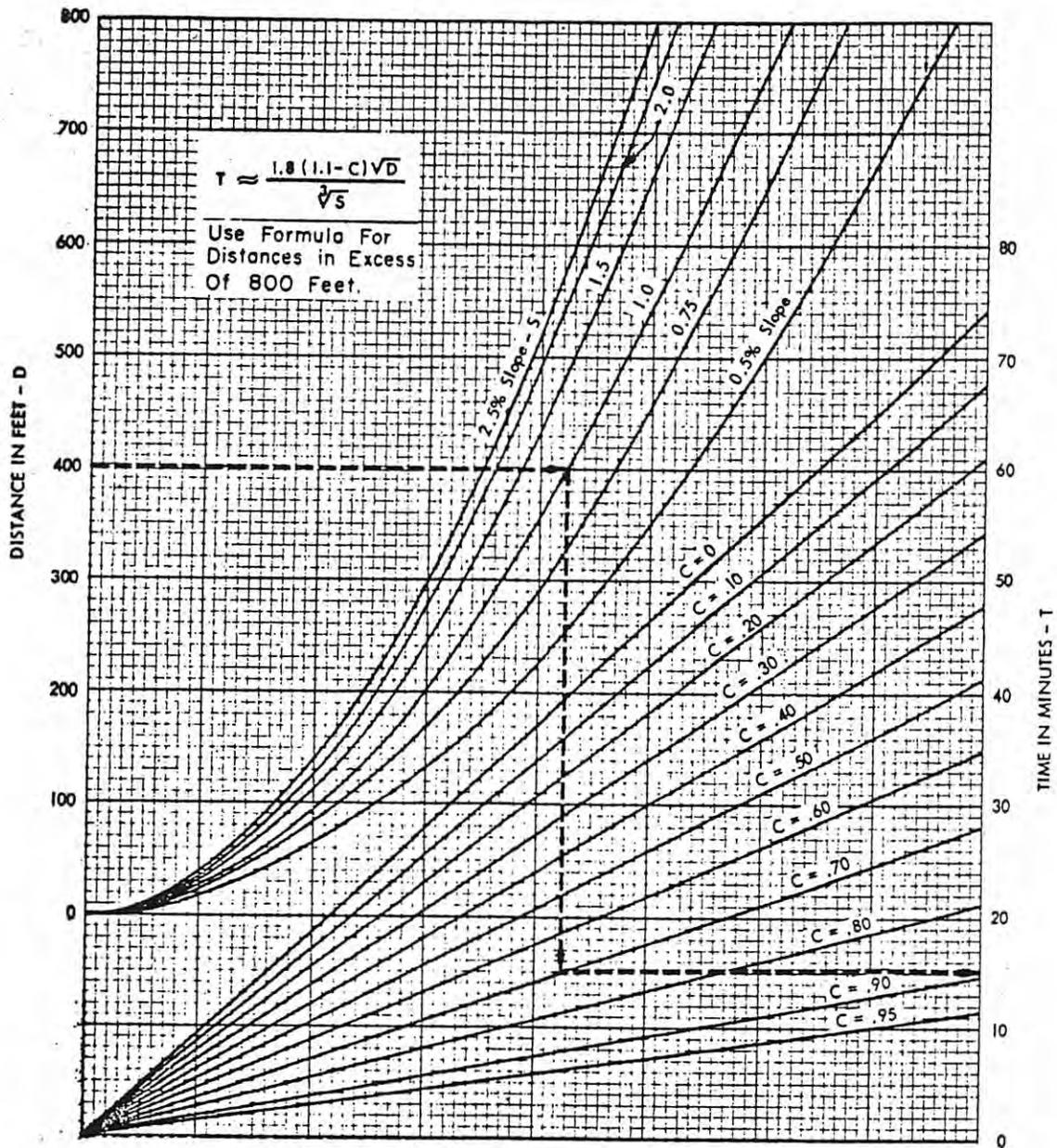
<u>Land Use</u>	<u>Coefficient, C</u> <u>Soil Type (1)</u>
<b>Residential:</b>	<u>D</u>
Single Family	.55
Multi-Units	.70
Mobile Homes	.65
Rural (lots greater than 1/2 acre)	.45
<b>Commercial (2)</b>	
80% Impervious	.85
<b>Industrial (2)</b>	
90% Impervious	.95

**NOTES:**

- (1) Type D soil to be used for all areas.
- (2) Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in no case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness	=	50%
Tabulated imperviousness	=	80%
Revised C	=	$\frac{50}{80} \times 0.85 = 0.53$

# URBAN AREAS OVERLAND TIME OF FLOW CURVES



Surface Flow Time Curves

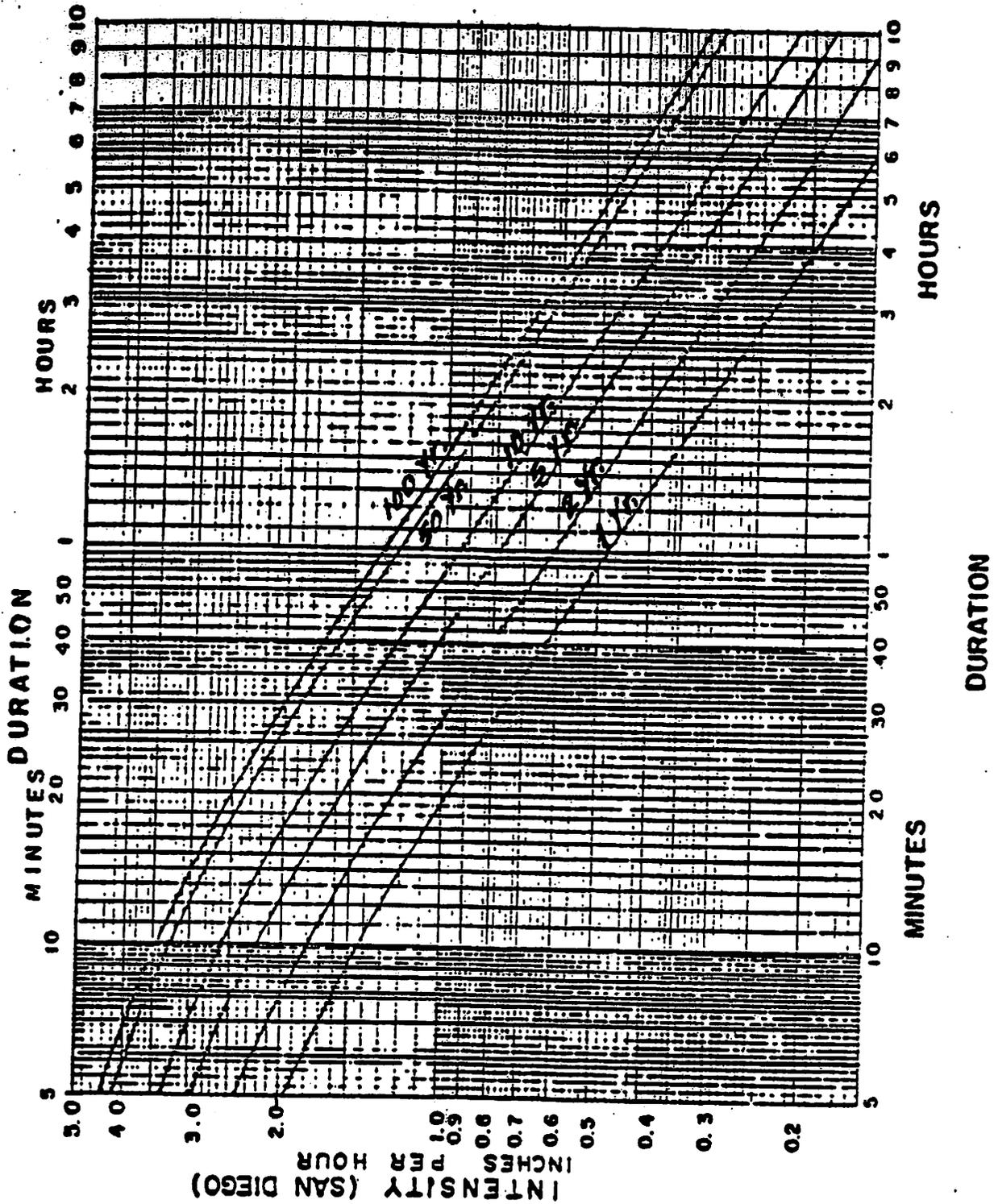
EXAMPLE:

GIVEN: LENGTH OF FLOW = 400 FT.

SLOPE = 1.0%

COEFFICIENT OF RUNOFF C = .70

READ: OVERLAND FLOWTIME = 15 MINUTES

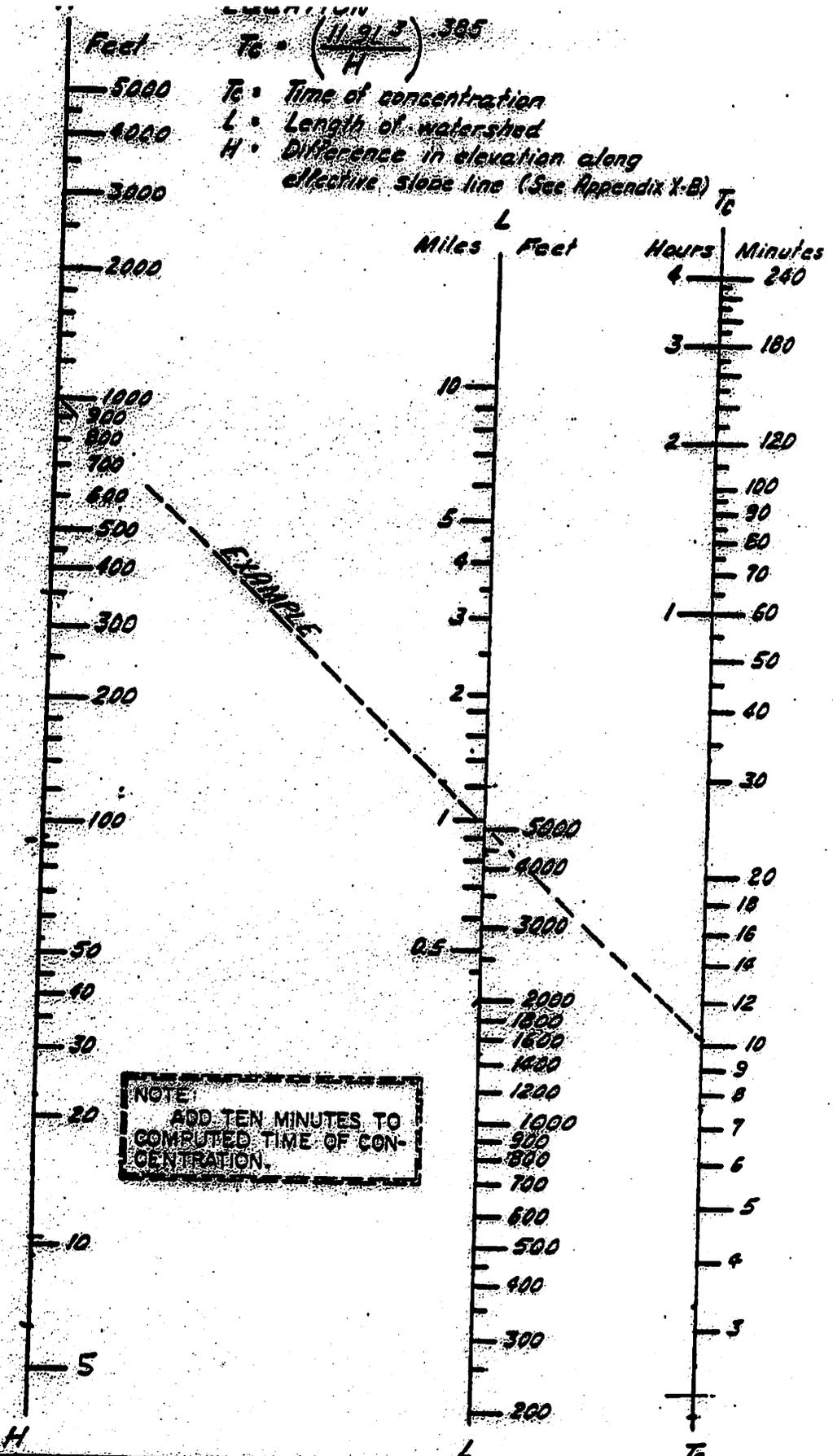


ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.70
DESERT	1.25

To obtain correct intensity, multiply intensity on chart by factor for design elevation.

**RAINFALL**  
**INTENSITY - DURATION - FREQUENCY**  
**CURVES**  
 for  
**COUNTY OF SAN DIEGO**

**APPENDIX J-**



SAN DIEGO COUNTY  
 DEPARTMENT OF SPECIAL DISTRICT SERVICES  
 DESIGN MANUAL  
 APPROVED *[Signature]*

NOMOGRAPH FOR DETERMINATION  
 OF TIME OF CONCENTRATION ( $T_c$ )  
 FOR NATURAL WATERSHEDS

DATE \_\_\_\_\_ APPENDIX \_\_\_\_\_

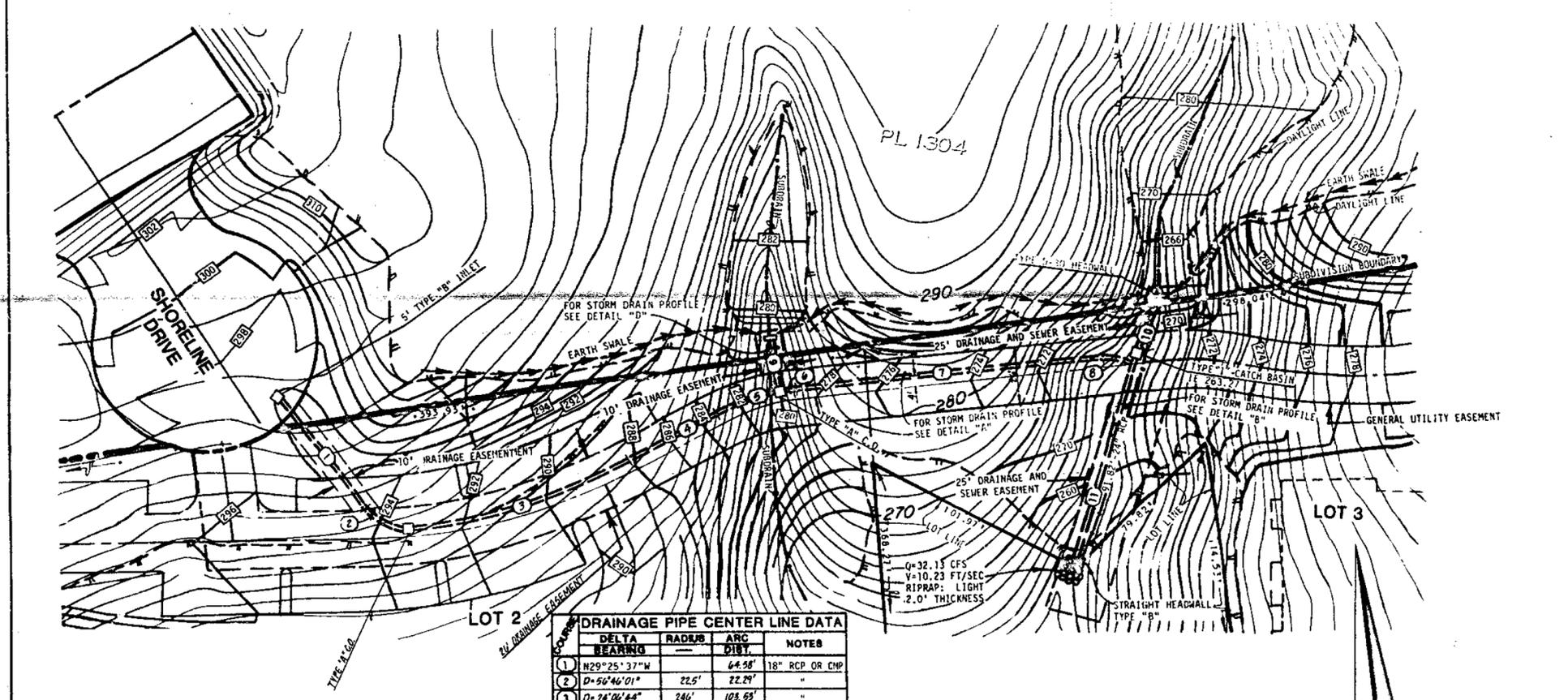
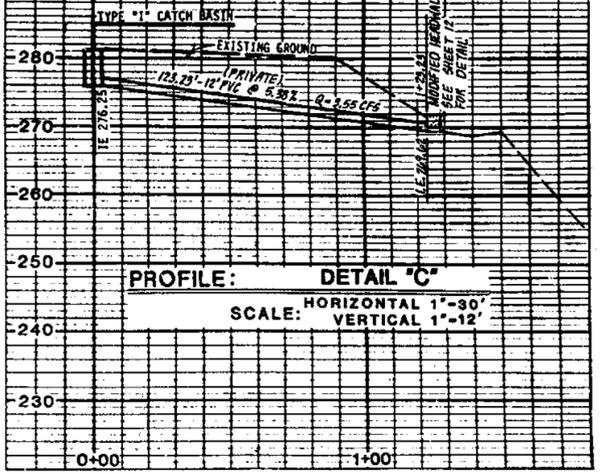
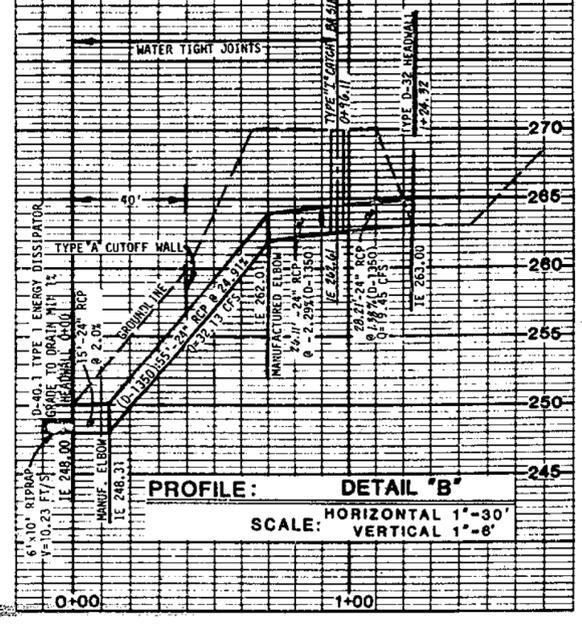
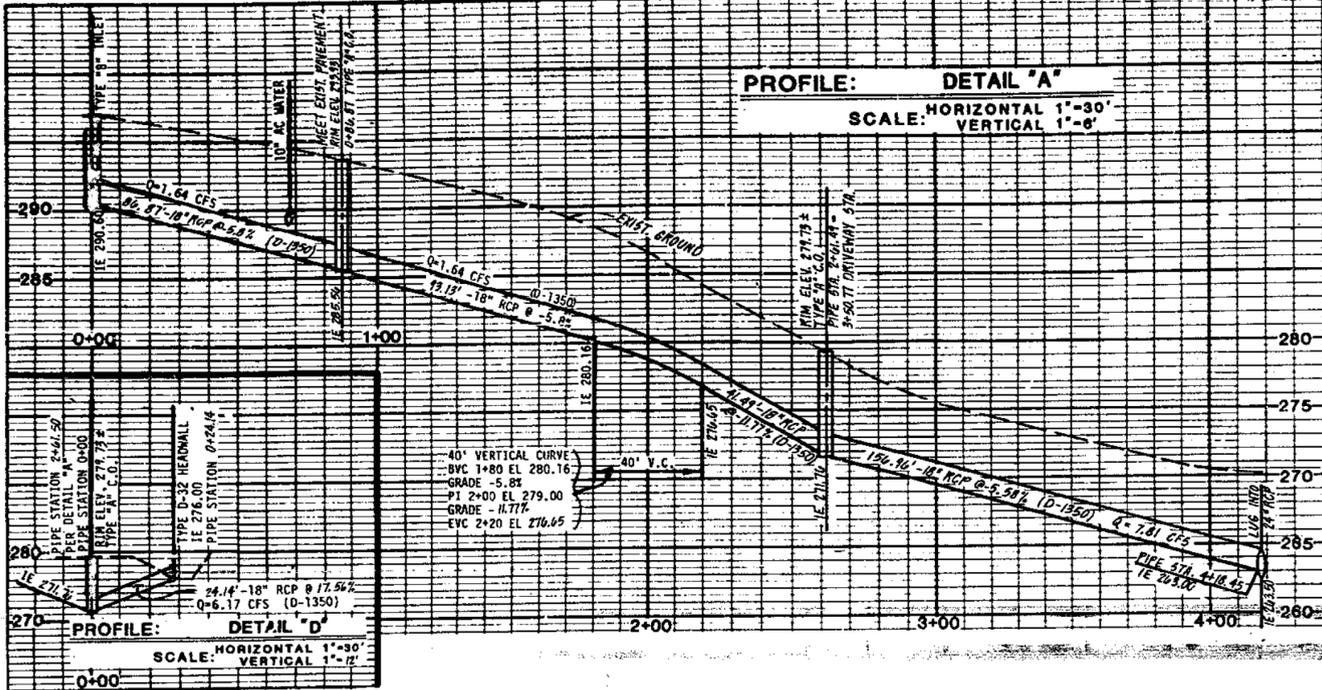
```

SCREEN 7
COLOR 4, 3
CLS
LINE INPUT "Enter the type of Conveyance"; tgs
PRINT "Type of Conveyance is": tgs
20 INPUT "Enter the Slope"; s
25 INPUT "Enter the Diameter"; D
30 INPUT "Enter the Roughness Coefficient": n
35 theta = 6.28318
40 A = (1 / 8) * (theta - sine(theta)) * D ^ 2
50 R = (1 / 4) * (1 - ((SIN(theta)) / theta)) * D
60 Qt = (1.49 / n) * A * (R ^ (2 / 3)) * s ^ (1 / 2)
90 V = Qt / A
92 PRINT "Quantity of flow equals"; Qt
95 PRINT "Velocity equals"; V
150 INPUT "Do you want a hardcopy of Data? Enter 1 if Yes": C
160 IF C = 1 GOTO 165 ELSE END
165 LPRINT "Type of conveyance is a: "; tgs
170 LPRINT "Diameter of conveyance equals": D; "Feet"
180 LPRINT "Slope of conveyance equals"; s * 100; "%"
190 LPRINT "Roughness equals"; n
200 LPRINT "Flow quantity equals"; Qt; "CFS"
210 LPRINT "Area equals"; A; "Square Feet"
220 LPRINT "Velocity equals"; V; "FPS"

```

Type of conveyance is a: Capacity of 24" RCP @ 2.29% Slope  
Diameter of conveyance equals 2 Feet  
Slope of conveyance equals 2.29 %  
Roughness equals .013  
Flow quantity equals 34.32604 CFS  
Area equals 3.14159 Square Feet  
Velocity equals 10.92633 FPS

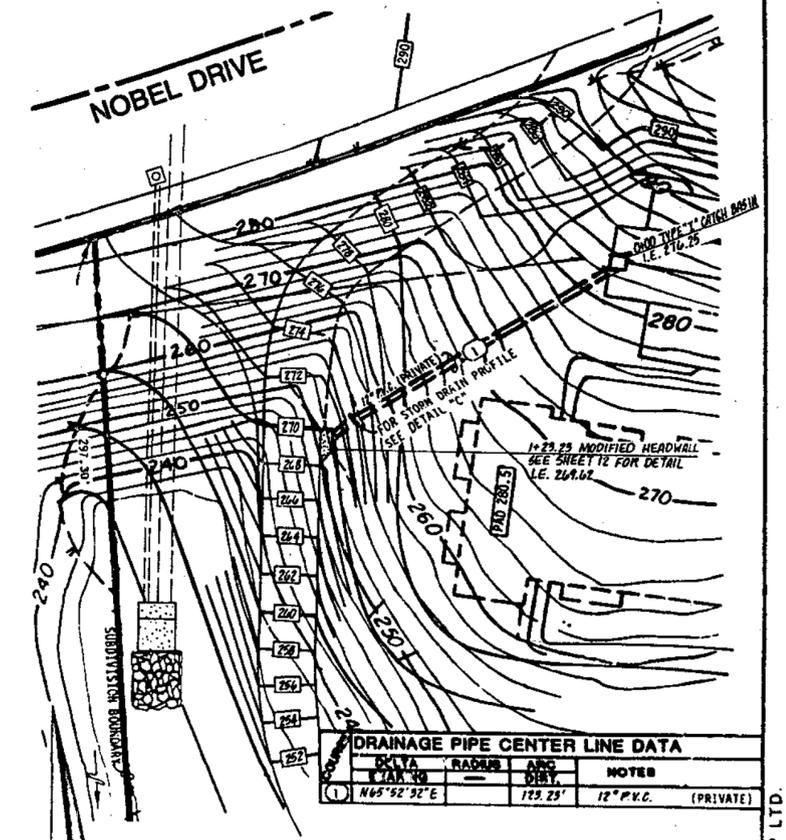
type of conveyance is a: Capacity of 18" RCP @ 17.56% Slope  
Diameter of conveyance equals 1.5 Feet  
Slope of conveyance equals 17.56 %  
Roughness equals .013  
Flow quantity equals 44.13654 CFS  
Area equals 1.767144 Square Feet  
Velocity equals 24.97619 FPS



**DRAINAGE PIPE CENTER LINE DATA**

NO.	DELTA BEARING	RADIUS	ARC DIST.	NOTES
1	N29°25'37"W	64.98'	18" RCP OR CMP	
2	D=56°46'01"	22.5'		
3	D=24°06'44"	246'	103.99'	
4	N69°41'38"E	42.69'		
5	D=19°22'21"	84'	28.40'	
6	D=03°58'07"	84'	5.82'	
7	N80°57'54"W	130.99'		
8	D=37°33'45"	22.5'	14.75'	
9	N03°23'07"W	24.14'		
10	N35°45'30"E	28.21'	24" RCP OR CMP	
11	N24°07'32"E	76.11'		

**AS-BUILT PLAN**  
DATE: 2-27-89  
E.F. COOK  
CIVIL DESIGN GROUP, LTD.  
3809 MI. ALFAN DRIVE SUITE 200  
SAN DIEGO, CALIFORNIA 92111  
PHONE: (619) 278-2828



**PRIVATE CONTRACT**

**GRADING PLAN FOR:  
TOWNE CENTRE APARTMENTS  
STORM DRAIN DETAILS**

CITY OF SAN DIEGO, CALIFORNIA  
SHEET 11 OF 18 SHEETS  
T.M. NO. 84-0223  
W.O. NO. 840223

APPROVED: 2-19-86  
DATE: 2-19-86

DESCRIPTION: STORM DRAIN  
BY: C.D. ALPHE  
APPROVED: C.D. ALPHE  
DATE: 2-19-86

CONTRACT NO. 80-02-025 DATE STARTED: 5/11/80  
INSPECTOR: GREGG E. COOK DATE COMPLETED: 11/26/80

254-1707  
22324-11-D

**PREPARATION AND REVISION LOG**

NO.	DATE	DESCRIPTION	BY
1	1/10/86	REV. CORRECTIONS	
2	1/28/86	REV. CORRECTIONS	
3	1/28/86	REV. CHANGES TO EXISTING GRADING	
4	1/28/86	REV. CHANGES TO EXISTING GRADING	
5	1/28/86	REV. CHANGES TO EXISTING GRADING	

CIVIL DESIGN GROUP, LTD.  
3809 MI. ALFAN DRIVE SUITE 200  
SAN DIEGO, CALIFORNIA 92111  
PHONE: (619) 278-2828

# APPENDIX “B”

# Drainage Area Maps

# **PRE-DEVELOPMENT DRAINAGE AREA MAP**

# PRE-CONSTRUCTION DRAINAGE AREA MAP

## LEGAL DESCRIPTION

A PORTION OF PUEBLO LOT 1304 OF THE PUEBLO LANDS OF SAN DIEGO, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF MADE BY JAMES PASCOE IN 1870, A COPY OF WHICH MAP WAS FILED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER, NOVEMBER 14, 1921, AS MISCELLANEOUS MAP NO. 36. SEE TITLE REPORT FOR FULL LEGAL DESCRIPTION.

## NOTES

- EASEMENTS, AGREEMENTS, DOCUMENTS AND OTHER MATTERS WHICH AFFECT THIS PROPERTY MAY EXIST, BUT CANNOT BE PLOTTED. SEE TITLE REPORT FOR PARTICULARS.
- THE PRECISE LOCATION OF UNDERGROUND UTILITIES COULD NOT BE DETERMINED IN THE FIELD. PRIOR TO ANY EXCAVATION UTILITY COMPANIES WILL NEED TO MARK-OUT THE UTILITY LOCATIONS.
- THE ADDRESS FOR THE SUBJECT PROPERTY IS NOBEL DRIVE AT SHORELINE DRIVE, SAN DIEGO, CA.
- THE ASSESSOR PARCEL NUMBER FOR THE SUBJECT PROPERTY IS 345-010-03.
- THE TOTAL AREA OF THE SUBJECT PARCEL IS 34.1 ACRES.

## BENCHMARK

CITY OF SAN DIEGO BENCHMARK LOCATED AT THE SOUTHWESTERLY CORNER OF NOBEL DRIVE AND SHORELINE DRIVE. ELEVATION 301.357 MEAN SEA LEVEL (N.G.V.D. 1929).

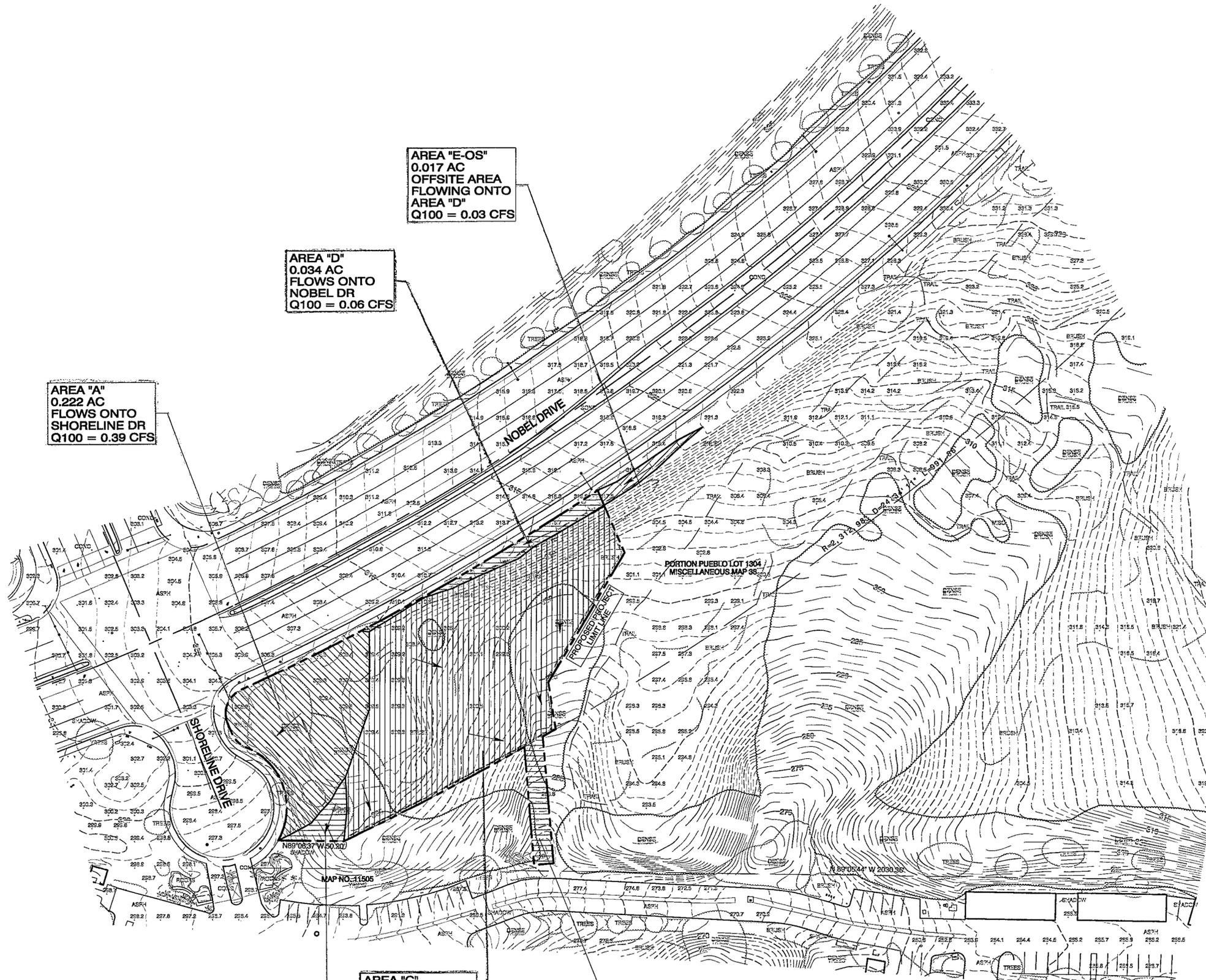
## ABBREVIATIONS

ASPH ASPHALT  
CONC CONCRETE



APRIL 20, 2016  
Date

ANTHONY K. CHRISTENSEN, R.C.E. 54021  
CHRISTENSEN ENGINEERING & SURVEYING  
7888 SILVERTON AVENUE, SUITE "J"  
SAN DIEGO, CA 92131  
858-271-9901



AREA "A"  
0.222 AC  
FLOWS ONTO  
SHORELINE DR  
Q100 = 0.39 CFS

AREA "D"  
0.034 AC  
FLOWS ONTO  
NOBEL DR  
Q100 = 0.06 CFS

AREA "E-OS"  
0.017 AC  
OFFSITE AREA  
FLOWING ONTO  
AREA "D"  
Q100 = 0.03 CFS

AREA "B"  
0.022 AC  
FLOWS  
SOUTHWESTERLY  
Q100 = 0.04 CFS

AREA "C"  
0.604 AC  
FLOWS  
SOUTHERLY AND  
SOUTHEASTERLY  
Q100 = 1.06 CFS

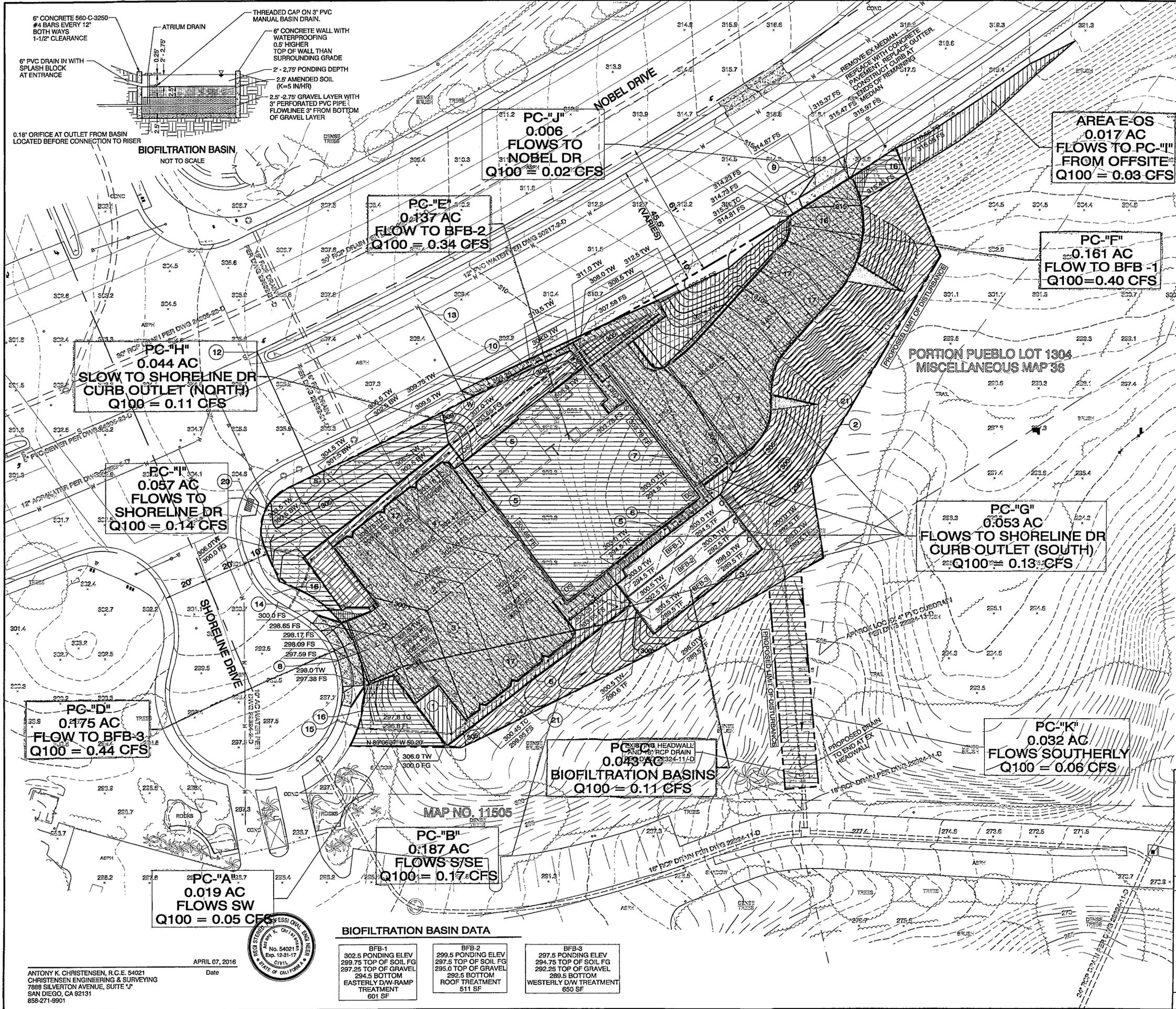
AREA "K"  
0.032 AC  
FLOWS  
SOUTHERLY  
Q100 = 0.06 CFS

SAFDIE RABINES ARCHITECTS 925 FORT STOCKTON DRIVE SAN DIEGO, CA 92103 619.592.8100 SRARCH@SAFDIERABINES.COM	PRE-CONSTRUCTION DRAINAGE AREA MAP	
	PLANS FOR THE CONSTRUCTION OF <b>FIRE STATION 50</b> SE CORNER OF NOBEL DR. AND SHORELINE DR.	
SPEC. NO.	CITY OF SAN DIEGO, CALIFORNIA PUBLIC WORKS DEPARTMENT SHEET OF SHEETS	WATER WBS S-13021 SEWER WBS X-XXXXX
APPROVED: FOR CITY ENGINEER _____ DATE _____ PRINT NAME _____ RCE# _____	SUBMITTED BY: ALJ DARVISHI SENIOR ENGINEER	CHECKED BY: SHAVASH HAGHROHAH PROJECT MANAGER
DESCRIPTION ORIGINAL    BY    APPROVED    DATE    FILMED	254-1707 CCS27 COORDINATE	6274-1897 CCS83 COORDINATE
CONTRACTOR _____ INSPECTOR _____	DATE STARTED _____ DATE COMPLETED _____	XXXXX-01-D

SAN DIEGO FIRE STATION 50

# **POST-DEVELOPMENT DRAINAGE AREA MAP**

# POST-CONSTRUCTION DRAINAGE AREA MAP



## CONSTRUCTION NOTES

- 1 AREA DRAIN (TYPICAL)
- 2 LANDSCAPED AREA (SEE LANDSCAPE PLAN)
- 3 IMPERVIOUS SURFACE DRAIN SYSTEM
- 4 RETAINING WALL (TYPICAL)
- 5 ROOF DOWNSPOUTE DRAIN SYSTEM (CLOSED SYSTEM)
- 6 PERVIOUS SURFACE DRAIN SYSTEM
- 7 12" TRENCH DRAIN (TRAFFIC GRATE)
- 8 PROPOSED 27' DRIVEWAY PER SDG-163
- 9 PROPOSED 30' DRIVEWAY PER SDG-163
- 10 PEDESTRIAN RAMP
- 11 PROPOSED MEDIAN OPENING
- 12 PROPOSED 4" PVC SEWER LATERAL (291.4 IE @ MAIN)
- 13 PROPOSED WATER SERVICE
- 14 CURB OUTLET PER D-25  
Q100 = CFS  
V100 = FFS
- 15 CURB OUTLET PER D-25  
Q100 = CFS  
V100 = FFS
- 16 VISIBILITY TRIANGLE AREA  
NOTHING GREATER THAN 36" IN HEIGHT ALLOWED  
IN THIS AREA
- 17 TYPE "G" CURB, NO GUTTER
- 18 EXISTING STREET LIGHT TO REMAIN
- 19 BIOFILTRATION BASIN
- 20 REMOVE AND REPLACE EX CURB RAMP PER SDG-130 & 132
- 21 6" PCC SURFACE. ACTUAL SECTION TO BE DETERMINED BY  
GEOTECHNICAL CONSULTANT AT TIME OF GRADING

## GRADING DATA

AREA OF SITE - 34.1 AC (PROPOSED SITE AREA 0.914 AC)  
 AREA OF SITE TO BE GRADED: 0.7988 AC  
 PERCENT OF SITE TO BE GRADED: 87.4%

AMOUNT OF CUT - 4,300 C.Y.  
 AMOUNT OF FILL - 1,600 C.Y.  
 AMOUNT OF EXPORT - 1,700 C.Y.  
 MAXIMUM FILL - 11 FEET  
 MAXIMUM CUT - 10 FEET  
 MAXIMUM HEIGHT OF FILL SLOPE - 11 FEET  
 MAXIMUM HEIGHT OF CUT SLOPE - 4 FEET  
 RETAINING WALL: 6 FEET MAX HT, 290 FEET LONG

EARTHWORK CALCULATIONS ARE APPROXIMATE AND TO FINISH GRADE USING:  
 16" FOR EQUIPMENT BAY  
 8" FOR BUILDING  
 6" FOR DRIVEWAY

FOR PROJECT SITE:

PRE-CONSTRUCTION IMPERVIOUSNESS 0 AC (0%)  
 POST-CONSTRUCTION IMPERVIOUSNESS 0.473 AC (0.473/0.914 AC = 51.8%)

## NOTES

1. UNDERGROUND UTILITIES ARE SHOWN AT RECORD LOCATIONS AS OBTAINED FROM CITY OF SAN DIEGO IMPROVEMENT PLANS. ACTUAL STRUCTURES AND LOCATION WILL NEED TO BE VERIFIED IN THE FIELD BY CONTRACTOR AND/OR UTILITY SPECIALISTS.
2. THE SOURCE OF THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS FROM SURVEY BY CHRISTENSEN ENGINEERING & SURVEYING, DATED 05-14-15.
3. TREATMENT OF RUNOFF FROM IMPERVIOUS SURFACES SHALL BE BY FLOW THROUGH PLANTERS AS SHOWN. ROOF RUNOFF SHALL BE CONVEYED THROUGH A CLOSED SYSTEM TO THE FTP.
4. AN ENCROACHMENT MAINTENANCE AND REMOVAL AGREEMENT WILL BE REQUIRED FOR PRIVATE CURB OUTLETS IN SHORELINE DRIVE RIGHT OF WAY AND FOR PRIVATE PEDESTRIAN RAMP IN NOBEL DRIVE
5. THIS PROJECT WILL NOT DISCHARGE ANY INCREASE IN STORM WATER RUNOFF ONTO THE EXISTING HILLSIDE AREA.
6. AT THE STORM WATER DISCHARGE LOCATIONS, SUITABLE ENERGY DISSIPATORS ARE TO BE INSTALLED TO REDUCE DISCHARGE TO NON-ERODIBLE VEGETIES.
7. NO ADDITIONAL RUN-OFF IS PROPOSED FOR THE DISCHARGE LOCATIONS.

### BIOFILTRATION BASIN DATA

BFB-1 302.5 PONDING ELEV 299.75 TOP OF SOIL FG 297.25 TOP OF GRAVEL 294.5 BOTTOM EASTERLY D/W-RAMP TREATMENT 601 SF	BFB-2 299.5 PONDING ELEV 297.5 TOP OF SOIL FG 295.0 TOP OF GRAVEL 292.5 BOTTOM ROOF TREATMENT 511 SF	BFB-3 297.5 PONDING ELEV 294.75 TOP OF SOIL FG 292.25 TOP OF GRAVEL 289.5 BOTTOM WESTERLY D/W TREATMENT 650 SF
--	--	--

SAFIE RABINES ARCHITECTS  
 925 FORT STOCKTON DRIVE  
 SAN DIEGO, CA 92113  
 619.297.6105  
 SRARCH@SAFIERABINES.COM

## PRELIMINARY GRADING PLAN

## PLANS FOR THE CONSTRUCTION OF FIRE STATION 50

SE CORNER OF NOBEL DR. AND SHORELINE DR.

SCALE  
 1" = 20' - 0"

SPEC. NO. \_\_\_\_\_

CITY OF SAN DIEGO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 SHEET OF SHEETS

WATER S-13021  
 SEWER WBS X-XXXXX  
 WBS

APPROVED FOR CITY ENGINEER _____ DATE _____	DATE _____			
PRINT NAME _____	RCE# _____			
DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	XXXX			

DESIGNED BY: AU DARYSHI SENIOR ENGINEER	DATE STARTED _____
CHECKED BY: SHIVASH HAGHIGHAN PROJECT MANAGER	DATE COMPLETED _____
254-1707 CCS27 COORDINATE	
6274-1897 CCS83 COORDINATE	
C1.2	

ANTHONY K. CHRISTENSEN, R.C.E. 54021  
 CHRISTENSEN ENGINEERING & SURVEYING  
 7898 SILVERTON AVENUE, SUITE "J"  
 SAN DIEGO, CA 92131  
 658-271-9901

APRIL 07, 2016  
 Date



# **ATTACHMENT 6**

## **GEO TECHNICAL AND GROUNDWATER**

### **INVESTIGATION REPORT**

Attach project's geotechnical and groundwater investigation report. Refer to Appendix C.4 to determine the reporting requirements

**GEOTECHNICAL EVALUATION  
PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA**

**PREPARED FOR:**  
Safdie Rabines Architects  
925 Fort Stockton Drive  
San Diego, California 92103

**PREPARED BY:**  
Ninyo & Moore  
Geotechnical and Environmental Sciences Consultants  
5710 Ruffin Road  
San Diego, California 92123

August 18, 2016  
Project No. 107954001

August 18, 2016  
Project No. 107954001

Mr. Scott Maas  
Safdie Rabines Architects  
925 Fort Stockton Drive  
San Diego, California 92103

Subject: Geotechnical Evaluation  
Proposed Fire Station No. 50  
Nobel Drive and Shoreline Drive  
San Diego, California

Dear Mr. Maas:

In accordance with your request and authorization, we are providing this geotechnical evaluation for the proposed Fire Station No. 50 to be located at the southeast corner of the intersection of Nobel and Shoreline Drives in San Diego, California. This report presents our geotechnical findings, conclusions, and recommendations regarding the proposed project. Our report was prepared in accordance with our revised proposal dated July 6, 2016.

We appreciate the opportunity to be of service on this project.

Sincerely,  
**NINYO & MOORE**

  
Gabriel Smith, PE  
Project Engineer



  
Kenneth H. Mansir, Jr.  
Principal Engineer



  
Gregory T. Farrand, PG, CEG  
Principal Geologist



GLC/GS/KHM/GTF/gg

Distribution: (1) Addressee

**TABLE OF CONTENTS**

	<u>Page</u>
1. INTRODUCTION .....	1
2. SCOPE OF SERVICES .....	1
3. SITE AND PROJECT DESCRIPTION .....	2
4. SUBSURFACE EXPLORATION AND LABORATORY TESTING .....	2
5. GEOLOGY AND SUBSURFACE CONDITIONS .....	3
5.1. Regional Geologic Setting .....	3
5.2. Site Geology .....	4
5.2.1. Fill .....	4
5.2.2. Very Old Paralic Deposits (Qvop <sub>9</sub> ) .....	4
5.2.3. Scripps Formation (Tsc) .....	5
5.3. Groundwater .....	5
6. GEOLOGIC HAZARDS .....	5
6.1. Faulting and Seismicity .....	5
6.1.1. Strong Ground Motion .....	6
6.1.2. Ground Rupture .....	7
6.1.3. Liquefaction and Seismically Induced Settlement .....	7
6.1.4. Tsunamis .....	8
6.2. Landsliding .....	8
6.3. Flood Hazards .....	8
6.4. City of San Diego Seismic Safety Study .....	8
7. CONCLUSIONS .....	9
8. RECOMMENDATIONS .....	10
8.1. Earthwork .....	10
8.1.1. Site Preparation .....	10
8.1.2. Excavation Characteristics .....	10
8.1.3. Remedial Grading .....	11
8.1.4. Cut-Fill Transitions .....	12
8.1.5. Materials for Fill .....	12
8.1.6. Compacted Fill .....	13
8.1.7. Utility Trench Backfill .....	13
8.1.8. Temporary Excavations .....	14
8.1.9. Temporary Shoring .....	15
8.1.10. Thrust Blocks .....	15
8.1.11. New Slopes .....	15
8.1.12. Drainage .....	16
8.2. Seismic Design Parameters .....	17
8.3. Foundations .....	17
8.3.1. Shallow Foundations .....	17
8.3.2. Shallow Foundation Lateral Earth Pressures .....	18

---

8.3.3. Static Settlement.....	19
8.4. Floor Slabs for Non-Apparatus Bay .....	19
8.5. Floor Slabs for Apparatus Bay .....	19
8.6. Retaining Walls .....	20
8.7. Concrete Flatwork .....	20
8.8. Corrosion .....	21
8.9. Concrete.....	21
8.10. Flexible Pavement Design .....	22
8.11. Rigid Pavement Design .....	22
8.12. Infiltration Devices .....	23
8.13. Pre-Construction Conference.....	23
8.14. Plan Review and Construction Observation.....	23
9. LIMITATIONS.....	24
10. REFERENCES .....	26

**Tables**

Table 1 – Principal Active Faults .....	6
Table 2 – 2013 California Building Code Seismic Design Criteria.....	17
Table 3 – Recommended Preliminary Pavement Sections.....	22

**Figures**

Figure 1 – Site Location	
Figure 2 – Boring Locations	
Figure 3 – Geology	
Figures 4A and 4B – Geologic Cross Sections A-A’ and B-B’	
Figure 5 – Fault Locations	
Figure 6 – Geologic Hazards	
Figure 7 – Lateral Earth Pressures for Braced Excavation	
Figure 8 – Thrust Block Lateral Earth Pressure Diagram	
Figure 9 – Keying and Benching Detail	
Figure 10 – Lateral Earth Pressures for Yielding Retaining Walls	
Figure 11 – Lateral Earth Pressures for Restrained Retaining Walls	
Figure 12 – Retaining Wall Drainage Detail	

**Appendices**

Appendix A – Boring Logs	
Appendix B – Laboratory Testing	

## **1. INTRODUCTION**

In accordance with your request, we are providing this geotechnical evaluation for the construction of the proposed Fire Station No. 50 to be located at the southeast corner of the intersection of Nobel and Shoreline Drives in San Diego, California. This report presents the results of our field exploration and laboratory testing, our conclusions regarding the geotechnical conditions at the subject site, and our recommendations for the design and earthwork construction of this project.

## **2. SCOPE OF SERVICES**

The scope of services for this study included the following:

- Reviewing readily available published and in-house geotechnical literature, topographic maps, geologic data, fault maps, aerial photographs, and provided site information.
- Performing a field reconnaissance to observe site conditions and to locate and mark the exploratory borings.
- Notifying Underground Service Alert (USA) to clear the boring locations for the potential presence of underground utilities.
- Retaining a subcontractor to perform limited site clearing to provide access to the boring locations.
- Performing a subsurface evaluation that consisted of the drilling, logging, and sampling of five exploratory borings. Relatively undisturbed and bulk soil samples were obtained at selected intervals from the borings.
- Performing geotechnical laboratory testing on selected samples to evaluate design parameters.
- Compiling and analyzing the data obtained from our background review, site reconnaissance, subsurface evaluation, and laboratory testing.
- Preparing this report presenting our findings, conclusions, and recommendations regarding the geotechnical design and construction of the new fire station.

### **3. SITE AND PROJECT DESCRIPTION**

The proposed fire station site consists of an approximately 1-acre, irregularly shaped area of land located south of Nobel Drive and east of Shoreline Drive in the University City area of San Diego (Figure 1). The site coordinates are approximately 32.8645°N latitude and -117.2003°W longitude. The project is located within what is currently an open-space area of Rose Canyon. Topography of the project site includes relatively flat areas adjacent to Nobel Drive and gentle slopes (i.e., slope inclinations ranging between approximately 3 [horizontal] to 1 [vertical] and 4 to 1) that descend south into Rose Canyon. Elevations at the site range from approximately 290 feet above mean sea level (MSL) at the southeastern portion to approximately 315 feet MSL in the northeastern corner and 305 feet MSL in the northwestern corner. The site is currently undeveloped. Several dirt paths and wire fences are present throughout the native vegetation, which includes low-lying grasses, shrubs, and native chaparral. Based on our review of background information, including historic aerial photographs (Historic Aerials), a portion of the site was periodically used as a construction staging area from approximately 2000 to 2006.

It is anticipated that the new fire station will be three stories in height, approximately 12,350 square-feet, and will include an apparatus bay, dorm rooms, kitchen, watch room, ready room, and training classroom. Parking and driveway areas will be constructed on the west and east sides of the fire station and will provide access to and from Shoreline Drive cul-de-sac and Nobel Drive, respectively. Concrete-lined bioswales are proposed along the southern side of the fire station. To facilitate construction of the improvements cuts up to approximately 6 feet will be performed within the building pad area. In addition, the eastern driveway will require construction of a new approximately 12-foot tall fill slope with a slope inclination of approximately 2 (horizontal) to 1 (vertical).

### **4. SUBSURFACE EXPLORATION AND LABORATORY TESTING**

Our subsurface exploration was conducted on July 19, 2016, and consisted of the drilling, logging, and sampling of five, small-diameter exploratory borings (HA-1, B-1, B-2, B-3, and B-4). Borings were drilled to depths of up to approximately 20 feet with manual equipment and a truck-mounted drill rig equipped with hollow-stem augers. Drive and bulk soil samples were ob-

tained from the borings and transported to our in-house geotechnical laboratory for testing. The approximate locations of the exploratory borings are shown on Figure 2. Logs of the borings are included in Appendix A.

Laboratory testing of representative soil samples included an evaluation of in-situ dry density and moisture content, gradation, Atterberg Limits, shear strength, expansion potential, soil corrosivity, and R-value. The results of in-situ dry density and moisture content tests are presented on the boring logs in Appendix A. The results of the other laboratory tests performed are presented in Appendix B.

## **5. GEOLOGY AND SUBSURFACE CONDITIONS**

Our findings regarding regional and local geology, including faulting and seismicity, landslides, and groundwater conditions at the subject site are provided in the following sections. Figure 3 is a geologic map of the project area, Figures 4A and 4B are geologic cross section of the site, and Figure 5 is a regional fault location map.

### **5.1. Regional Geologic Setting**

The project area is situated in the coastal foothill section of the Peninsular Ranges Geomorphic Province. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California (Norris and Webb, 1990; Harden, 2004). The province varies in width from approximately 30 to 100 miles. In general, the province consists of rugged mountains underlain by Jurassic metavolcanic and metasedimentary rocks, and Cretaceous igneous rocks of the southern California batholith. In the coastal portion of the province in San Diego County, the metamorphic and granitic basement rocks are overlain by sedimentary materials that are Tertiary and Quaternary in age.

The Peninsular Ranges Province is traversed by a group of sub-parallel faults and fault zones trending approximately northwest. Several of these faults (Figure 5) are considered active faults. The Elsinore, San Jacinto, and San Andreas faults are active fault systems located northeast of the project area and the Rose Canyon, Coronado Bank, Newport-

Inglewood, and San Clemente faults are active faults located west of the project area. The Rose Canyon Fault Zone, the nearest active fault system, has been mapped approximately 3 miles west of the project site. Major tectonic activity associated with these and other faults within this regional tectonic framework consists primarily of right-lateral, strike-slip movement. The approximate fault-to-site distance was calculated by the United States Geological Survey (2008) National Seismic Hazard Maps database (web-based). Further discussion of faulting relative to the site is provided in the Faulting and Seismicity section of this report.

## **5.2. Site Geology**

Geologic units mapped at the site and encountered during our evaluation included fill, very old paralic deposits, and the Scripps Formation (Kennedy and Tan, 2008). Generalized descriptions of the units anticipated at the site are provided below with more details presented on the boring logs in Appendix A. Geologic cross sections across the site are provided in Figures 4A and 4B.

### **5.2.1. Fill**

Fill was encountered in our borings extending from the surface to depths of up to approximately 6 feet below existing ground surface. As encountered, the fill material generally consists of light brown and reddish to yellowish brown, moist, soft to firm, silty clay and sandy clay, and light brown, moist, loose to medium dense, clayey gravel. Scattered gravel and cobbles were encountered in the fill.

### **5.2.2. Very Old Paralic Deposits (Qvop)**

While not encountered in our exploratory borings, Quaternary-age very old paralic deposits, formerly referred to as the Lindavista Formation, are mapped in the northern portion of the project site (Figure 3; Kennedy and Tan, 2008). The very old paralic deposits are anticipated to consist of reddish brown, moderately to well cemented, silty sandstone with numerous gravels and cobbles. The very old paralic deposits unconformably overlie the Scripps Formation.

### **5.2.3. Scripps Formation (Tsc)**

Materials of the Tertiary-aged Scripps Formation were encountered in our borings underlying the fill materials and extended to the total depths explored. As encountered in our borings, these materials consisted of light gray and light brown, moist, weakly to strongly indurated clayey siltstone and silty claystone, and weakly to strongly cemented sandy siltstone. Strongly indurated/cemented or concretionary zones were encountered within the Scripps Formation.

### **5.3. Groundwater**

Groundwater was not encountered in our exploratory borings. Groundwater is anticipated to be deeper than 40 feet in the project vicinity (SCS&T, 1984; Ninyo & Moore, 1992). However, fluctuations in the groundwater level and local perched conditions may occur due to variations in ground surface topography, subsurface geologic conditions and structure, rainfall, irrigation, and other factors.

## **6. GEOLOGIC HAZARDS**

Geologic hazards such as faulting and seismicity, landsliding, and flooding are discussed in the following sections.

### **6.1. Faulting and Seismicity**

Based on our review of the referenced geologic maps and stereoscopic aerial photographs, as well as on our geologic field mapping, the subject site is not underlain by known active or potentially active faults (i.e., faults that exhibit evidence of ground displacement in the last 11,000 years and 2,000,000 years, respectively). However, the site is located in a seismically active area, as is the majority of southern California, and the potential for strong ground motion is considered significant during the design life of the proposed structure.

The nearest known active fault is the Rose Canyon fault, located approximately 3 miles west of the site. Table 1 lists selected principal known active faults that may affect the subject site, the maximum moment magnitude ( $M_{max}$ ) and the fault types as published for the California Geological Survey (CGS) by Cao et al. (2003). The approximate fault to site distance was calculated by the USGS National Seismic Hazard Maps – Fault Parameters website (USGS, 2008).

**Table 1 – Principal Active Faults**

<b>Fault</b>	<b>Distance miles (kilometers) <sup>1</sup></b>	<b>Moment Magnitude <sup>1</sup></b>
Rose Canyon	3 (5)	6.9
Coronado Bank	17 (27)	7.4
Newport-Inglewood (Offshore)	24 (39)	7.0
Elsinore (Julian Segment)	35 (56)	7.4
Elsinore (Temecula Segment)	35 (56)	7.1
Earthquake Valley	42 (67)	6.8
Palos Verdes	51 (81)	7.3
Elsinore (Coyote Mountain)	51 (81)	6.9
Elsinore (Glen Ivy Segment)	53 (85)	6.9
San Jacinto (Coyote Creek Segment)	56 (91)	7.0
San Joaquin Hills	57 (93)	7.1
San Jacinto (Anza Segment)	58 (94)	7.3
<b>Note:</b> <sup>1</sup> USGS (2008)		

In general, hazards associated with seismic activity include strong ground motion, ground rupture, liquefaction, seismically induced settlement, and tsunamis. These hazards are discussed in the following sections.

### **6.1.1. Strong Ground Motion**

The 2013 California Building Code (CBC) specifies that the Risk-Targeted, Maximum Considered Earthquake ( $MCE_R$ ) ground motion response accelerations be used to evaluate seismic loads for design of buildings and other structures. The  $MCE_R$  ground motion response accelerations are based on the spectral response accelerations for 5 percent damping in the direction of maximum horizontal response and incorporate a target risk for structural collapse equivalent to 1 percent in 50 years with deterministic limits for near-source effects. The horizontal peak ground acceleration (PGA) that corresponds to the  $MCE_R$  of the site was calculated as 0.44g, using the United States

Geological Survey (USGS, 2013) seismic design tool (web-based). Spectral response acceleration parameters, consistent with the 2013 CBC, are also provided in Section 8.2 for the evaluation of seismic loads on buildings and other structures.

The 2013 CBC specifies that the potential for liquefaction and soil strength loss be evaluated, where applicable, for the Maximum Considered Earthquake Geometric Mean ( $MCE_G$ ) peak ground acceleration with adjustment for site class effects in accordance with the American Society of Civil Engineers (ASCE) 7-10 Standard. The  $MCE_G$  peak ground acceleration is based on the geometric mean peak ground acceleration with a 2 percent probability of exceedance in 50 years. The  $MCE_G$  peak ground acceleration with adjustment for site class effects ( $PGA_M$ ) was calculated as 0.46g using the USGS (USGS, 2013) seismic design tool that yielded a mapped  $MCE_G$  peak ground acceleration of 0.46g for the site and a site coefficient ( $F_{PGA}$ ) of 1.00 for Site Class C.

#### **6.1.2. Ground Rupture**

Based on our review of the referenced literature and our subsurface evaluation, no active faults are known to cross the project vicinity. Therefore, the potential for ground rupture due to faulting at the site is considered low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible.

#### **6.1.3. Liquefaction and Seismically Induced Settlement**

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are more susceptible to liquefaction. Based on the relatively dense nature of the materials encountered and absence of a shallow groundwater table, it is our opinion that liquefaction and seismically induced settlement at the subject site are not design considerations.

#### **6.1.4. Tsunamis**

Tsunamis are long wavelength seismic sea waves (long compared to the ocean depth) generated by sudden movements of the ocean bottom during submarine earthquakes, landslides, or volcanic activity. Based on the inland location and elevation of the site, the potential for a tsunami to affect the site is not a design consideration.

#### **6.2. Landsliding**

Based on our review of referenced geologic and topographic maps, literature, and stereoscopic aerial photographs, and our subsurface evaluation, large landslides or indications of deep-seated landsliding have not been mapped or identified underlying the project site. It should be noted that two shallow landslides were identified in exploratory trenches excavated in the adjacent site to the south (SCS&T, 1984). These landslides were noted to occur within a siltstone section of the Scripps Formation and were relatively shallow in depth (i.e., approximately 3.5 to 7 feet). According to the referenced report, the landslides consisted of a zone of fractures that were associated with out-of-slope bedding and soil creep. The landslide materials were described as soft to stiff. Based on our site reconnaissance and our subsurface evaluation, the subject site is underlain by competent materials of Scripps Formation that do not exhibit evidence of similar shallow landsliding, such as fractures and zones of soft clay.

#### **6.3. Flood Hazards**

Based on our review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the project site is located outside of the mapped 100-year flood zone. Therefore, flooding is not a design consideration for the project.

#### **6.4. City of San Diego Seismic Safety Study**

According to the City of San Diego Seismic Safety Study (2008), the project site lies within Hazard Category 54 (Figure 6). Hazard Category 54 is characterized by areas of steeply sloping terrain with unfavorable or fault-controlled geologic structure that possess moderate risk.

## 7. CONCLUSIONS

Based on our review of the referenced background data, subsurface evaluation, and laboratory testing, it is our opinion that construction of the proposed fire station is feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction of the project. In general, the following conclusions were made:

- The project site is underlain by fill materials and Scripps Formation. Although not encountered in our subsurface exploration, very old paralic deposits are mapped at the project site.
- Based on the laboratory test results presented in Appendix B, fill materials and materials derived from the Scripps Formation are clayey in nature and possess a high potential for expansion. These materials are not considered suitable for reuse as compacted fill within the limits of the building pad or as retaining wall backfill.
- Due to the clayey and highly expansive nature of the materials of the fill and Scripps Formation, remedial grading recommendations for the site, including removal of the fill materials, are presented in the following sections.
- Materials of the Scripps Formation are considered suitable for structural support of the proposed improvements.
- Based on our subsurface exploration, excavation of the subsurface materials should be feasible with heavy-duty excavation equipment in good working condition. However, cobbles or strongly cemented and indurated zones should be anticipated to be encountered and additional effort including heavy ripping may be needed during excavation.
- Groundwater was not encountered in our borings. Groundwater is not anticipated to be a design consideration. However, perched zones and seepage may be encountered in some areas.
- The active Rose Canyon fault zone is located approximately 3 miles west of the site. Accordingly, the potential for relatively strong seismic ground motions should be considered in the project design.
- Based on our experience with similar soils in the vicinity of the site, the onsite soils are considered to be corrosive.
- Due to the clayey and expansive nature of the onsite soils, infiltration of storm water is not considered feasible and is not recommended. Design and construction of storm water BMPs (i.e., bioswales) should include impervious lining.

## **8. RECOMMENDATIONS**

Based on our understanding of the project, the following recommendations are provided for the design and construction of the proposed fire station and improvements. The proposed site improvements should be constructed in accordance with the requirements of the applicable governing agencies.

### **8.1. Earthwork**

In general, earthwork should be performed in accordance with the recommendations presented in this report. Ninyo & Moore should be contacted for questions regarding the recommendations or guidelines presented herein.

#### **8.1.1. Site Preparation**

Site preparation should begin with the removal of existing vegetation, utility lines, and other deleterious debris from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside of the proposed excavation and fill areas. The debris and unsuitable material generated during clearing and grubbing should be removed from areas to be graded and disposed of at a legal dumpsite away from the project area.

#### **8.1.2. Excavation Characteristics**

The results of our subsurface exploration indicate that the project site, as presently proposed, is underlain by fill materials, which are underlain by Scripps Formation. Excavation of the subsurface materials should be feasible with heavy-duty excavation equipment in good working condition. As noted, cobbles or cemented and indurated zones should be anticipated to be encountered, and additional effort including heavy ripping may be needed during excavation.

### **8.1.3. Remedial Grading**

Our subsurface evaluation encountered existing fills and formational materials that are clayey and highly expansive in nature. Therefore, we recommend that the existing fill materials at the site be removed down to competent Scripps Formation. Additionally, based on our review of the proposed grading and site plan, the new Fire Station 50 will be underlain by a cut/fill transition. Therefore, we recommend that the building pad be overexcavated to a depth of 3 feet below the pad subgrade elevation or down to competent materials of the Scripps Formation, whichever is deeper. For the purposes of this report, the building pad is defined as the structural footprint (including foundations for attached overhangs, canopies, and other building appurtenances) plus a horizontal distance of 5 feet. Areas of concrete hardscape that are located outside the limits of the building pad (i.e., structural footprint plus a 5-foot horizontal distance) should be overexcavated to a depth of 2 feet below subgrade elevation. The extent and depth of removals should be evaluated by Ninyo & Moore's representative in the field based on the material exposed.

The resulting removal surface should then be scarified approximately 8 inches, moisture conditioned to generally above optimum moisture content, and recompact to a relative compaction of 90 percent as evaluated by ASTM International (ASTM) Test Method D 1557. Compacted fill for the building pad should be moisture conditioned to generally above optimum moisture content and compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557. On-site excavations are anticipated to produce clayey, highly expansive soils, which are not suitable for backfill within the building pad limits. Therefore, imported select fill materials, as outlined in Section 8.1.5 of this report, are anticipated. It is the contractor's responsibility to notify Ninyo & Moore and the appropriate governing agency when project areas are ready for observation, and to provide reasonable time for that review.

#### **8.1.4. Cut-Fill Transitions**

As noted in the previous section, a cut/fill transition will exist beneath the building pad. Accordingly, recommendations to mitigate the effects of such a transition are provided in the Remedial Grading and Foundation sections of this report. These recommendations include removal of the existing fill materials, overexcavation of the soils beneath the building pad, and deepening of footings to bear on competent Scripps Formation.

#### **8.1.5. Materials for Fill**

Onsite fill materials and materials derived from the Scripps Formation are clayey in nature and possess a high potential for expansion. Therefore, these materials are not considered suitable for reuse within the building pad, as defined in the Remedial Grading section, as wall backfill and/or utility trench backfill. Imported select fill materials, as defined herein, should be used within these areas.

Materials derived from onsite excavations may be reused for construction of slopes, beneath pavements, landscape areas, and other general fill areas. These onsite materials should possess an organic content of less than approximately 3 percent by volume (or 1 percent by weight), not contain rocks or lumps over approximately 3 inches in diameter, and not more than approximately 30 percent larger than  $\frac{3}{4}$  inch.

Imported select fill materials should possess an organic content of less than approximately 3 percent by volume (or 1 percent by weight), be granular soils with a very low to low expansion potential (i.e., an expansion index [EI] of 50 or less as evaluated by the ASTM D 4829), and meet the following gradation. The imported select fill material should be granular, not contain rocks or lumps over approximately 3 inches in diameter, and not more than approximately 30 percent larger than  $\frac{3}{4}$  inch. Import material should also be non-corrosive in accordance with the Caltrans (2012) corrosion guidelines and ACI 318. Materials for use as fill should be evaluated by Ninyo & Moore's representative prior to filling or importing.

#### **8.1.6. Compacted Fill**

Prior to placement of compacted fill, the contractor should request an evaluation of the exposed ground surface by Ninyo & Moore. The evaluation of compaction by the geotechnical consultant should not be considered to preclude any requirements for observation or approval by governing agencies. It is the contractor's responsibility to notify this office and the appropriate governing agency when project areas are ready for observation, and to provide reasonable time for that review.

Fill materials should be moisture conditioned to generally above the laboratory optimum moisture content prior to placement. The optimum moisture content will vary with material type and other factors. Moisture conditioning of fill soils should be generally consistent within the soil mass.

Prior to placement of additional compacted fill material following a delay in the grading operations, the exposed surface of previously compacted fill should be prepared to receive fill. Preparation may include scarification, moisture conditioning, and recompaction.

Compacted fill should be placed in horizontal lifts of approximately 8 inches in loose thickness. Prior to compaction, each lift should be watered or dried as needed to achieve a moisture content generally above the laboratory optimum, mixed, and then compacted by mechanical methods, to a relative compaction of 90 percent as evaluated by ASTM D 1557. The upper 12 inches of subgrade soils beneath vehicular pavements should be compacted to a relative compaction of 95 percent as evaluated by ASTM D 1557. The aggregate base materials beneath vehicular pavements should also be compacted to a relative compaction of 95 percent as evaluated by ASTM D 1557. Successive lifts should be treated in a like manner until the desired finished grades are achieved.

#### **8.1.7. Utility Trench Backfill**

Based on our subsurface evaluation, the on-site fill materials primarily consist of clay and are not suitable for re-use as trench backfill. Trench backfill materials should be free of rocks and lumps greater than approximately 3 inches in diameter, organic mate-

rial, clay lumps, cemented chunks, and debris. We recommend that trench backfill materials be in conformance with the “Greenbook” (Standard Specifications for Public Works) specifications for structure backfill. Fill should be moisture-conditioned to generally above the laboratory optimum. Trench backfill should be compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557 except for the upper 12 inches of the backfill that should be compacted to a relative compaction of 95 percent as evaluated by ASTM D 1557. Lift thickness for backfill will depend on the type of compaction equipment utilized, but fill should generally be placed in lifts not exceeding 8 inches in loose thickness. Special care should be exercised to avoid damaging the pipe during compaction of the backfill.

#### **8.1.8. Temporary Excavations**

For temporary excavations, we recommend that the following Occupational Safety and Health Administration (OSHA) soil classifications be used:

<i>Fill</i>	<i>Type C</i>
<i>Scripps Formation or Very Old Paralic Deposits</i>	<i>Type B</i>

Upon making the excavations, the soil classifications and excavation performance should be evaluated in the field by the geotechnical consultant in accordance with the OSHA regulations. Temporary excavations should be constructed in accordance with OSHA recommendations. For trench or other excavations, OSHA requirements regarding personnel safety should be met using appropriate shoring (including trench boxes) or by laying back the slopes to a slope ratio no steeper than 1.5 to 1 (horizontal to vertical) in fill and 1 to 1 (horizontal to vertical) in Scripps Formation or very old paralic deposits (if encountered). Temporary excavations that encounter seepage may be shored or stabilized by placing sandbags or gravel along the base of the seepage zone. Excavations encountering seepage should be evaluated on a case-by-case basis. On-site safety of personnel is the responsibility of the contractor.

#### **8.1.9. Temporary Shoring**

If shoring or bracing is required for temporary excavations, the following recommendations may be used. Temporary earth retaining systems will be subjected to lateral loads resulting from earth pressures. Shoring systems for excavations may be designed using the lateral earth pressure parameters presented on Figure 7. These lateral earth pressures should be evaluated by a structural engineer for the design of the shoring systems. These design earth pressures assume that spoils from the excavations, or other surcharge loads, will not be placed above the excavations within a 1 to 1 (horizontal to vertical) plane extending up and back from the base of the excavation. For bracing subjected to surcharge loads, such as soil stockpiles or construction materials/equipment, an additional horizontal uniform pressure of  $0.40q$  may be applied to the full height of the excavation, where “q” is the surcharge pressure.

#### **8.1.10. Thrust Blocks**

Thrust restraint for buried pipelines may be achieved by transferring the thrust force to the soil outside the pipe through a thrust block. Thrust blocks may be designed using the magnitude and distribution of passive lateral earth pressures presented on Figure 8. Thrust blocks should be backfilled with granular backfill material and compacted following the recommendations presented in this report.

#### **8.1.11. New Slopes**

Unless otherwise recommended by Ninyo & Moore and approved by the regulating agencies, fill and cut slopes should not be steeper than 2 to 1 (horizontal to vertical). We recommend slopes be designed and constructed in accordance with the recommendations presented in this section and on Figure 9.

Compaction of the face of fill slopes should be performed by backrolling at intervals of 4 feet or less in vertical slope height or as dictated by the capability of the available equipment, whichever is less. Fill slopes should be backrolled utilizing a sheepsfoot-type roller. Care should be taken in maintaining the desired moisture conditions and/or reestablishing them, as needed, prior to backrolling. The placement, moisture condition-

ing, and compaction of fill slope materials should be done in accordance with the recommendations presented in the Compacted Fill section of this report.

Site runoff should not be permitted to flow over the tops of slopes. Positive drainage should be established away from the slopes. This may be accomplished by incorporating brow ditches placed at the top of the slopes to divert surface runoff away from the slope face where drainage devices are not otherwise available.

The on-site soils are likely to be susceptible to erosion; therefore, the project plans and specifications should contain design features and construction requirements to mitigate erosion of on-site soils during and after construction. Imported fill materials should be evaluated for suitability by Ninyo & Moore prior to their use in constructing fill slopes.

#### **8.1.12. Drainage**

Roof, pad, and slope drainage should be directed such that runoff water is diverted away from slopes and structures to suitable discharge areas by nonerodible devices (e.g., gutters, downspouts, concrete swales, etc.). Positive drainage adjacent to structures should be established and maintained. Positive drainage may be accomplished by providing drainage away from the foundations of the structure at a gradient of 2 percent or steeper for a distance of 5 feet or more outside the building perimeter, and further maintained by a graded swale leading to an appropriate outlet, in accordance with the recommendations of the project civil engineer and/or landscape architect.

Surface drainage on the site should be provided so that water is not permitted to pond. A gradient of 2 percent or steeper should be maintained over the pad area and drainage patterns should be established to divert and remove water from the site to appropriate outlets.

Care should be taken by the contractor during final grading to preserve any berms, drainage terraces, interceptor swales or other drainage devices of a permanent nature on or adjacent to the property. Drainage patterns established at the time of final grading should be maintained for the life of the project. The property owner and the mainte-

nance personnel should be made aware that altering drainage patterns might be detrimental to slope stability and foundation performance.

### 8.2. Seismic Design Parameters

The proposed improvements should be designed in accordance with the requirements of governing jurisdictions and applicable building codes. Table 2 presents the seismic design parameters for the site in accordance with CBC (2013) guidelines and mapped spectral acceleration parameters (USGS, 2016).

**Table 2 – 2013 California Building Code Seismic Design Criteria**

Seismic Design Factors	Values
Site Class	C
Site Coefficient, $F_a$	1.000
Site Coefficient, $F_v$	1.380
Mapped Short Period Spectral Acceleration, $S_s$	1.097g
Mapped One-Second Period Spectral Acceleration, $S_1$	0.420g
Short Period Spectral Acceleration Adjusted For Site Class, $S_{MS}$	1.097g
One-Second Period Spectral Acceleration Adjusted For Site Class, $S_{M1}$	0.580g
Design Short Period Spectral Acceleration, $S_{DS}$	0.732g
Design One-Second Period Spectral Acceleration, $S_{D1}$	0.387g

### 8.3. Foundations

The proposed building may be supported on shallow, spread, or continuous footings bearing entirely on competent Scripps Formation as described in this report. Foundations should be designed in accordance with structural considerations and the following recommendations. In addition, requirements of the appropriate governing jurisdictions and applicable building codes should be considered in the design of the structures.

#### 8.3.1. Shallow Foundations

Shallow, spread, or continuous footings supported entirely on competent Scripps Formation may be designed using an allowable bearing capacity of 4,000 pounds per square foot (psf) based on the embedment depths described below. These allowable

bearing capacities may be increased by one-third when considering loads of short duration such as wind or seismic forces. Shallow, spread, or continuous footings for the building should be deepened extend through the 3 feet of imported select fill materials to bear on competent Scripps Formation. Therefore, building footings are anticipated to be founded a minimum 36 inches below finished building pad subgrade elevation. Continuous footings should have a width of 18 inches and isolated footings should be 24 inches in width. From a geotechnical standpoint, footings should be reinforced with three No. 5 reinforcing bars at the top and bottom. The footing reinforcing should be designed by the project structural engineer.

If required by the topography of the site or due to fill thickness, portions of the building foundations may need to be deepened to bear on the Scripps Formation. As an alternative method to stepping down and deepening the footings, the deepened portions of the foundation excavations more than 36 inches below finished pad subgrade elevation may be backfilled with controlled low-strength material (CLSM) to the bottom elevation of the concrete footing. For this alternative, footings may bear on a controlled low strength material (CLSM) backfill with a compressive strength of 150 pounds per square inch (psi) according to “Greenbook,” Section 201-6 specifications. CLSM backfill should extend down to Scripps Formation.

### **8.3.2. Shallow Foundation Lateral Earth Pressures**

For resistance of footings to lateral loads, we recommend an allowable passive pressure of 350 psf of depth be used with a value of up to 3,500 psf. This value assumes that the ground is horizontal for a distance of 10 feet, or three times the height generating the passive pressure, whichever is greater. We recommend that the upper 1 foot of soil not protected by pavement or a concrete slab be neglected when calculating passive resistance.

For frictional resistance to lateral loads, we recommend a coefficient of friction of 0.35 be used between soil and concrete. The allowable lateral resistance can be taken as the sum of the frictional resistance and passive resistance provided the passive resistance does not exceed one-half of the total allowable resistance. The passive resistance values may be increased by one-third when considering loads of short duration such as wind or seismic forces.

### **8.3.3. Static Settlement**

We estimate that the proposed structures, designed and constructed as recommended herein, will undergo total settlement on the order of 1 inch. Differential settlement on the order of ½ inch over a horizontal span of 40 feet should be expected.

### **8.4. Floor Slabs for Non-Apparatus Bay**

We recommend that conventional, slab-on-grade floors, not subjected to vehicular loading and underlain by very low to low expansive compacted fill or very old paralic deposits, be 5 or more inches in thickness and be reinforced with No. 4 or larger reinforcing bars spaced 18 inches on center each way. The reinforcing bars should be placed near the mid-point of the slabs. As a means to help reduce shrinkage cracks, we recommend that the slabs be provided with expansion joints at intervals of approximately 15 to 20 feet, each way or as recommended by the structural engineer. The slab reinforcement and expansion joint spacing should be designed by the structural engineer.

If moisture sensitive floor coverings are to be used, we recommend that the slab base include a 4-inch-thick capillary break (consisting of either sand, crushed rock, or gravel) overlain by a 10-mil polyethylene (or equivalent) membrane.

### **8.5. Floor Slabs for Apparatus Bay**

We recommend that the fire apparatus bay floor slabs be designed as rigid pavements per Rigid Pavement Design (Section 8.7) of this report. Final design of the apparatus bay slab section should be based on the finish grade soils after completion of grading.

## **8.6. Retaining Walls**

Although specifics are not known at this time, we understand that retaining walls may be constructed as part of the project. Retaining walls may be supported on a continuous footings bearing on Scripps Formation. Retaining wall foundations may be designed in the same manner as the new building foundations.

For the design of a yielding retaining wall that is not restrained against movement by rigid corners or structural connections, lateral pressures are presented on Figure 10. Restrained walls (non-yielding) may be designed for lateral pressures presented on Figure 11. These pressures assume low-expansive backfill and free draining conditions. Import soils should be anticipated for backfill of retaining walls. Measures should be taken to reduce the potential for build-up of moisture behind the retaining walls. Drainage design should include free-draining backfill materials and perforated drains as depicted on Figure 12. Solid outlet pipes should be connected to the perforated drains and then routed to a suitable area for discharge of accumulated water. The portions of retaining walls supporting backfill should be coated with an appropriate waterproofing compound or covered with a similar material to inhibit infiltration of moisture through the walls. It is the responsibility of the project structural engineer and/or the retaining wall contractor to provide specifications for waterproofing materials and methods of application.

## **8.7. Concrete Flatwork**

Exterior concrete flatwork should be 5 inches in thickness and should be reinforced with No. 4 reinforcing bars placed at 24 inches on-center both ways. No vapor retarder is needed for exterior flatwork. To reduce the potential manifestation of distress to exterior concrete flatwork due to movement of the underlying soil, we recommend that such flatwork be installed with crack-control joints at appropriate spacing as designed by the structural engineer. Exterior slabs should be underlain by 4 inches of clean sand. The subgrade soils should be scarified to a depth of 12 inches, moisture conditioned to near the laboratory optimum moisture content, and compacted to a relative compaction of 90 percent as evaluated by ASTM D 1557. Positive drainage should be established and maintained adjacent to flatwork.

### **8.8. Corrosion**

Laboratory testing was performed on a representative sample of the on-site earth materials to evaluate pH and electrical resistivity, as well as chloride and sulfate contents. The pH and electrical resistivity tests were performed in accordance with California Test (CT) 643 and the sulfate and chloride content tests were performed in accordance with CT 417 and CT 422, respectively. These laboratory test results are presented in Appendix B.

The results of the corrosivity testing indicated an electrical resistivity of 1300 ohm-cm, a soil pH of 7.1, a chloride content of 165 ppm and a sulfate content of 0.003 percent (i.e., 30 ppm). Previous experience and testing of similar soils in the vicinity indicated electrical resistivities less than 1,000 ohm-cm, chloride contents more than 500 ppm, and sulfate contents more than 0.1 percent (i.e., above 1,000 ppm). Based on the Caltrans corrosion (2003) criteria, ACI 318, and our experience, the on-site soils would be classified as corrosive. Corrosive soils are defined as the soils with electrical resistivities less than 1,000 ohm-cm, more than 500 ppm chlorides, more than 0.1 percent sulfates, or a pH less than 5.5.

### **8.9. Concrete**

Concrete in contact with soil or water that contains high concentrations of water-soluble sulfates can be subject to premature chemical and/or physical deterioration. As stated above, the soil sample tested in this evaluation indicated a water-soluble sulfate content of 0.003 percent by weight (i.e., 30 ppm). Additionally, previous testing of similar soils in the vicinity indicated water-soluble sulfate contents ranging between 0.064 and 0.136 percent. According to the American Concrete Institute (ACI) 318, the potential for sulfate attack is considered moderate for water-soluble sulfate contents between 0.10 and 0.20 percent by weight (i.e., between 1,000 and 2,000 ppm) in soils. Therefore, the site soils are not considered to have a moderate potential for sulfate attack. Accordingly, we recommend that normal weight concrete in contact with soil use Type II/V cement, have a water-cement ratio no higher than 0.50 by weight, and have a 28-day compressive strength of 4,000 pounds per square inch (psi) or more, in accordance with ACI 318.

### 8.10. Flexible Pavement Design

Our laboratory testing indicated the site soils have an R-value of 15. Actual pavement recommendations should be based on R-value tests performed on bulk samples of the soils that are exposed at the finished subgrade elevations across the site at the completion of the grading operations. We understand that traffic will consist primarily of automobiles, light trucks, and fire engines. For design we have assumed Traffic Indices (TI) of 7.0 and 8.0 for site pavements. The preliminary recommended pavement sections are presented in Table 3.

**Table 3 – Recommended Preliminary Pavement Sections**

Traffic Index	R-Value	Asphalt Concrete (in)	Class 2 Aggregate Base (in)
7	15	4½	13
8	15	5½	14

We recommend that the upper 12 inches of the subgrade be compacted to a relative compaction of 95 percent relative density as evaluated by the current version of ASTM D 1557. The aggregate base materials should be compacted to a relative compaction of 95 percent of the modified Proctor density as evaluated ASTM D 1557. The AC materials should be compacted to a relative compaction of 95 percent as evaluated by the materials Hveem density. If traffic indices are different from those assumed, the pavement design should be re-evaluated.

### 8.11. Rigid Pavement Design

In areas of rigid pavement, we recommend that the upper 12 inches of the subgrade be compacted to a relative compaction of 95 percent of the laboratory Proctor density as evaluated by ASTM D 1557. We recommend that in these areas, 8 inches of 600 psi flexural strength Portland cement concrete reinforced with No. 3 bars, 18 inches on-center, be used. We recommend that the geotechnical consultant re-evaluate the pavement design, based on the subgrade material exposed at the time of construction.

### **8.12. Infiltration Devices**

We understand that the project will include bioswales along the southern side of the proposed fire station. As described earlier, based on our experience with similar materials, the Scripps Formation is relatively impermeable. Accordingly, the use of infiltration devices will result in lateral migration of subsurface water and potentially adverse effects to structures and site improvements (i.e., volumetric changes). Therefore, where bioswales are proposed, we recommend that the bottom and sides be lined with an impermeable liner. The bioswales should discharge and be connected to an appropriate outlet by use of a solid pipe.

### **8.13. Pre-Construction Conference**

We recommend that a pre-construction meeting be held prior to commencement of grading. The owner or his representative, the agency representatives, the architect, the civil engineer, Ninyo & Moore, and the contractor should attend to discuss the plans, the project, and the proposed construction schedule.

### **8.14. Plan Review and Construction Observation**

The conclusions and recommendations presented in this report are based on analysis of observed conditions in widely spaced exploratory borings. If conditions are found to vary from those described in this report, Ninyo & Moore should be notified, and additional recommendations will be provided upon request. Ninyo & Moore should review the final project drawings and specifications prior to the commencement of construction. Ninyo & Moore should perform the needed observation and testing services during construction operations.

The recommendations provided in this report are based on the assumption that Ninyo & Moore will provide geotechnical observation and testing services during construction. In the event that it is decided not to utilize the services of Ninyo & Moore during construction, we request that the selected consultant provide the client with a letter (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the design parameters and recommendations contained in this

report. Construction of proposed improvements should be performed by qualified subcontractors utilizing appropriate techniques and construction materials.

## 9. LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified, and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

## 10. REFERENCES

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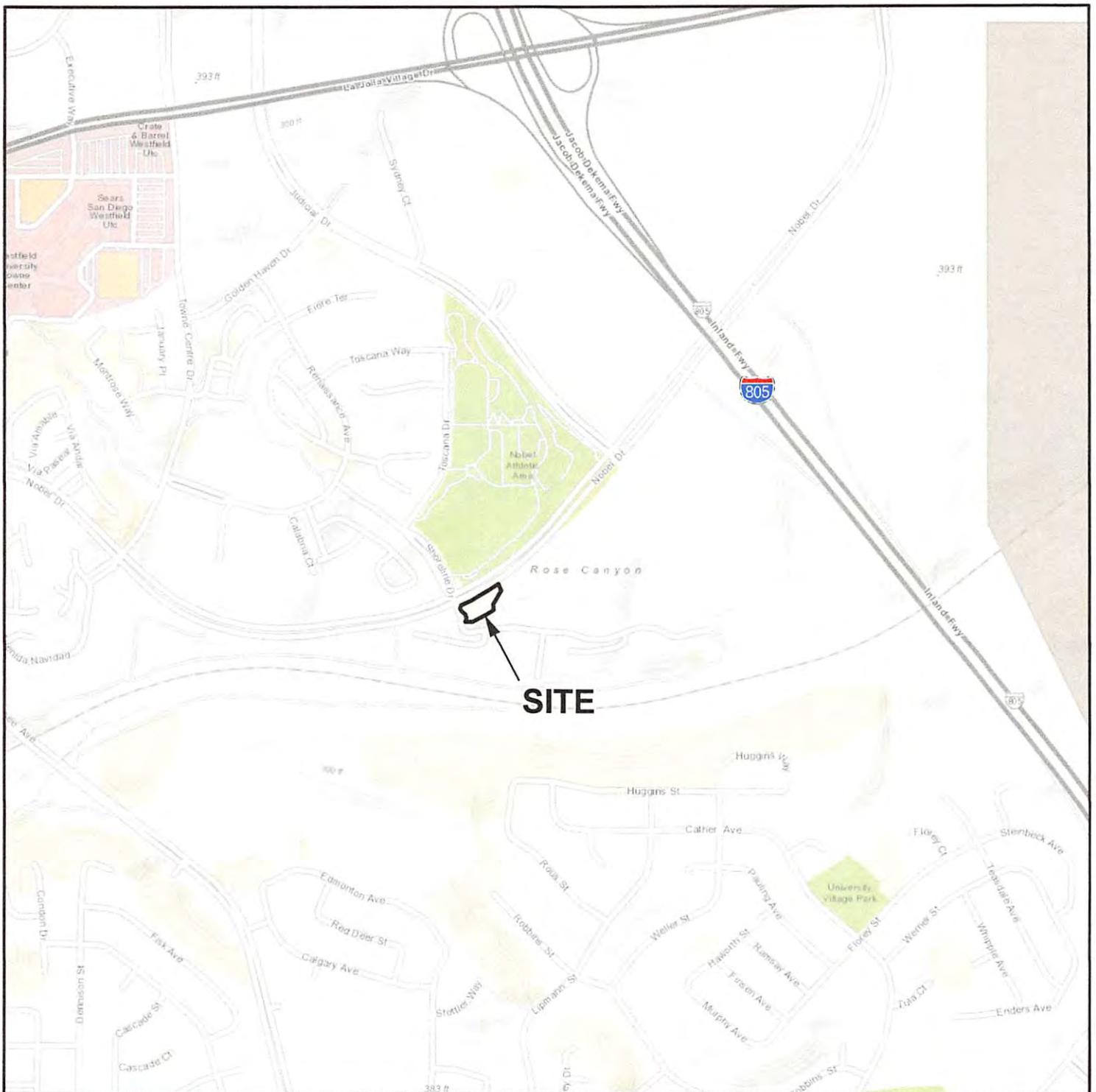
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Scale 1:24,000.

<b>AERIAL PHOTOGRAPHS</b>				
<b>Source</b>	<b>Date</b>	<b>Flight</b>	<b>Numbers</b>	<b>Scale</b>
USDA	March 31, 1953	AXN-4M	85 and 86	1:20,000



SOURCE: USGS, THE NATIONAL MAP, ESRI, 2015

**MAP INDEX**



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE

**Ninyo & Moore**

**SITE LOCATION**

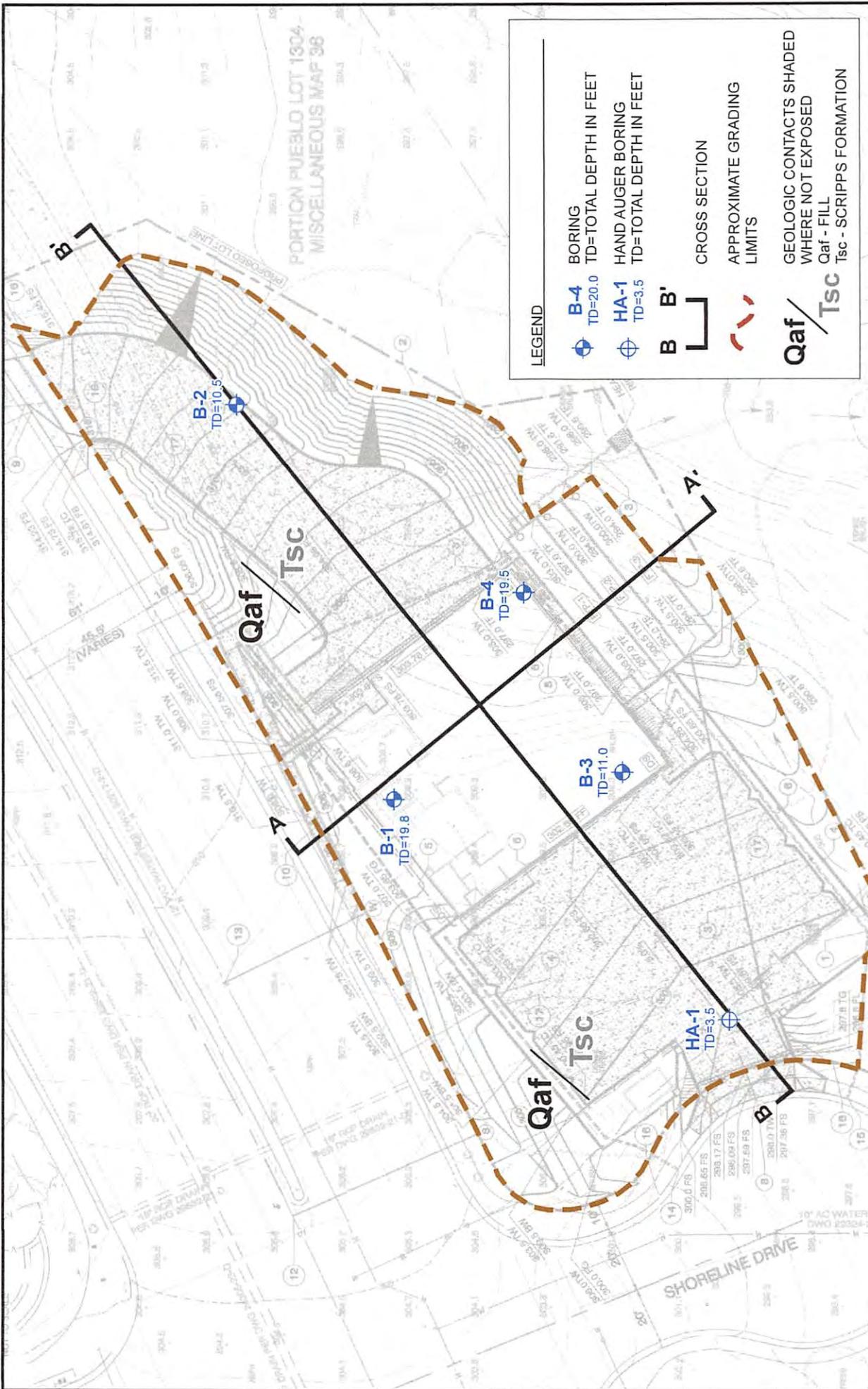
FIGURE

PROJECT NO.

DATE

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

679 **1** Page



SOURCES: SAFDIE RABINES, UNDATED; GOOGLE EARTH, 2016

NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

**Ninyo & Moore**

**BORING LOCATIONS**

FIGURE  
**2**

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

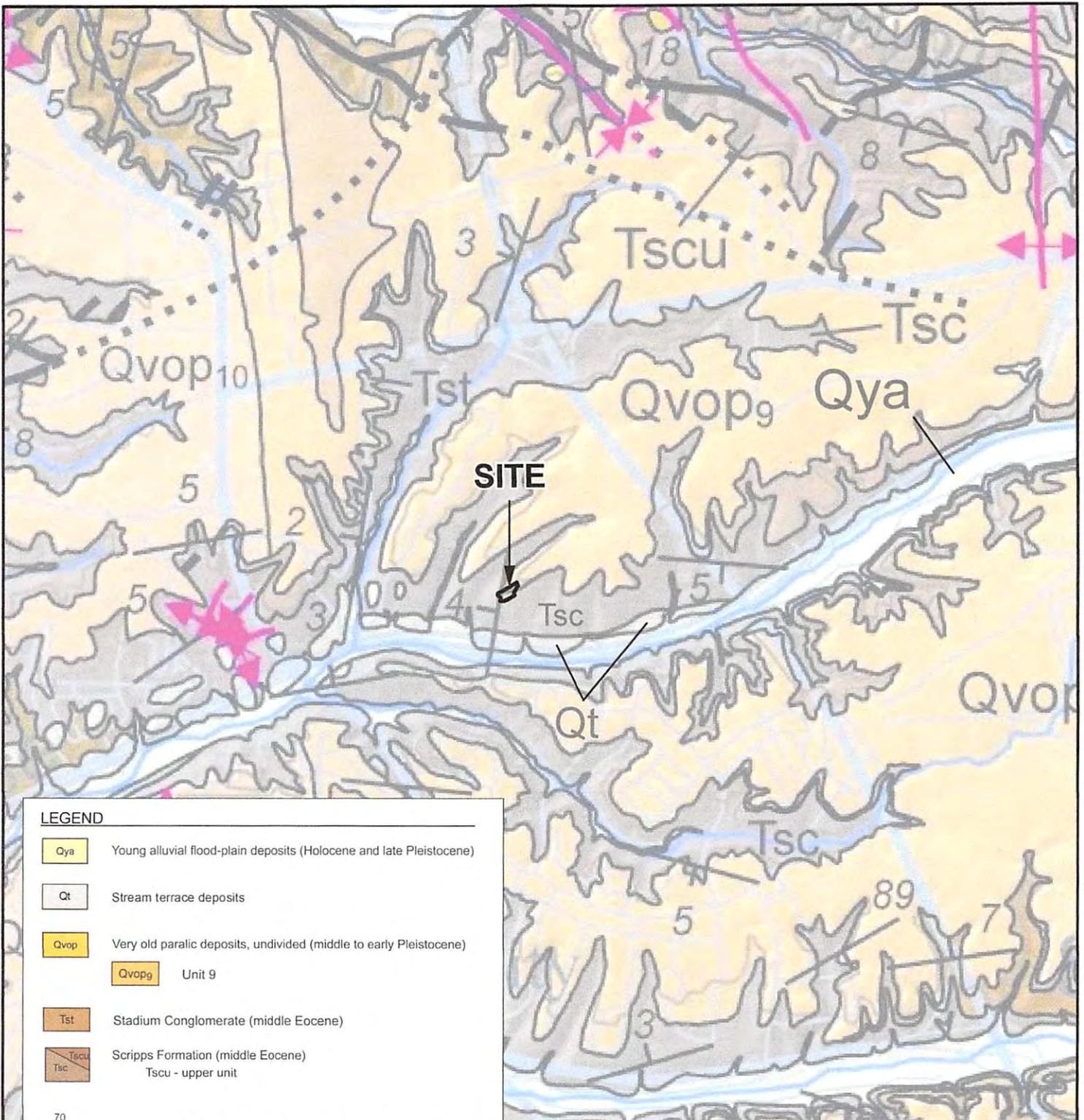
PROJECT NO.  
107954001

DATE  
8/16



SCALE IN FEET





**LEGEND**

- Qya Young alluvial flood-plain deposits (Holocene and late Pleistocene)
  - Qt Stream terrace deposits
  - Qvop Very old paralic deposits, undivided (middle to early Pleistocene)
  - Qvop<sub>9</sub> Unit 9
  - Tst Stadium Conglomerate (middle Eocene)
  - Tscu Scripps Formation (middle Eocene)  
Tsc - upper unit
- 70  
 Fault - Solid where accurately located; dashed where approximately located; dotted where concealed. U = upthrown block, D = downthrown block. Arrow and number indicate direction and angle of dip of fault plane.
- Anticline - Solid where well defined; short dash where inferred.
- Syncline - Solid where well defined; short dash where inferred.
- Strike and dip of beds  
 Inclined

REFERENCE: KENNEDY, M.P. AND TAN, S.S., CALIFORNIA GEOLOGICAL SURVEY, 2008, GEOLOGIC MAP OF THE SAN DIEGO 30' X 60' QUADRANGLE, CALIFORNIA



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

**Ninyo & Moore**

**GEOLOGY**

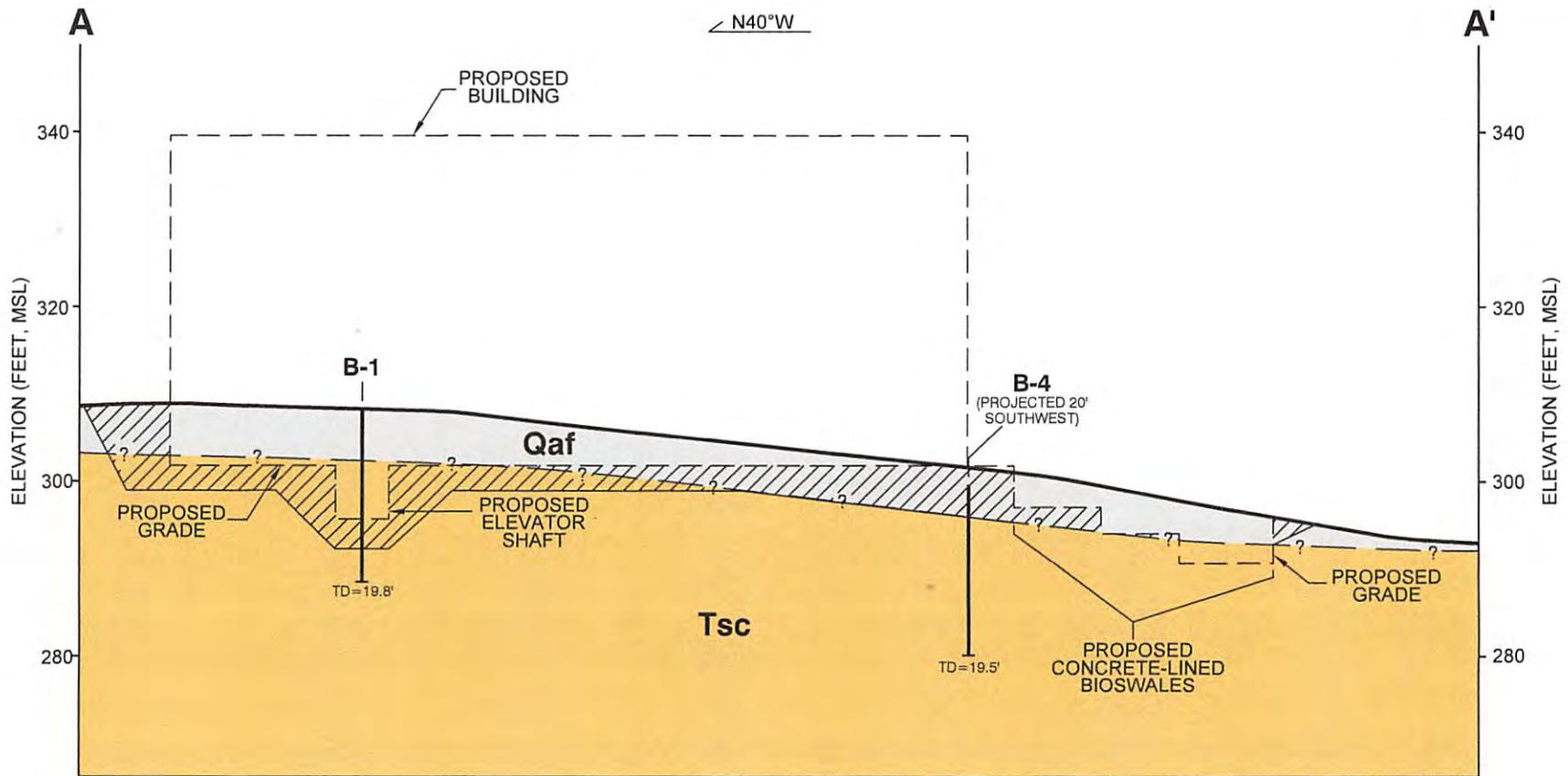
FIGURE

PROJECT NO.

DATE

PROPOSED FIRE STATION NO. 50  
 NOBEL DRIVE AND SHORELINE DRIVE  
 SAN DIEGO, CALIFORNIA

681 **3** page



**LEGEND**

**B-4** BORING  
TD=TOTAL DEPTH IN FEET  
TD=19.5'

**Qaf** FILL

**Tsc** SCRIPPS FORMATION

— ? — GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN

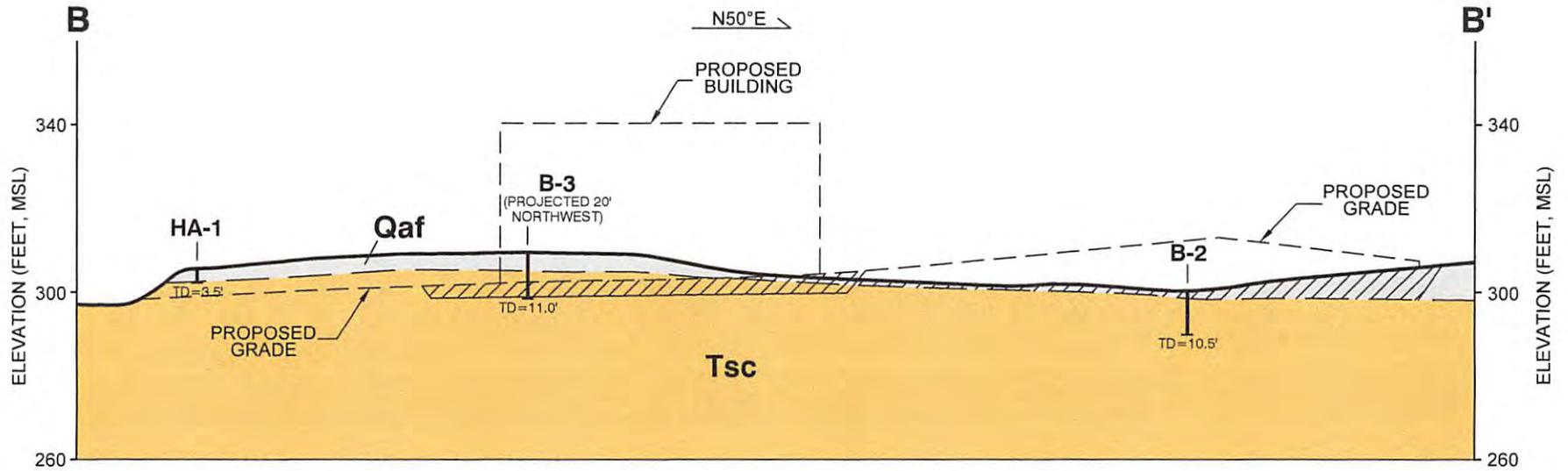
PROPOSED REMEDIAL GRADING



NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE

<b><i>Ninyo &amp; Moore</i></b>		<b>GEOLOGIC CROSS SECTION A-A'</b>	FIGURE <b>4A</b>
PROJECT NO. 107954001	DATE 8/16		

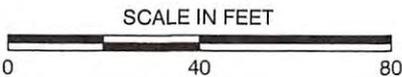
4a.107954001\_cs-a-a'.dwg



**LEGEND**

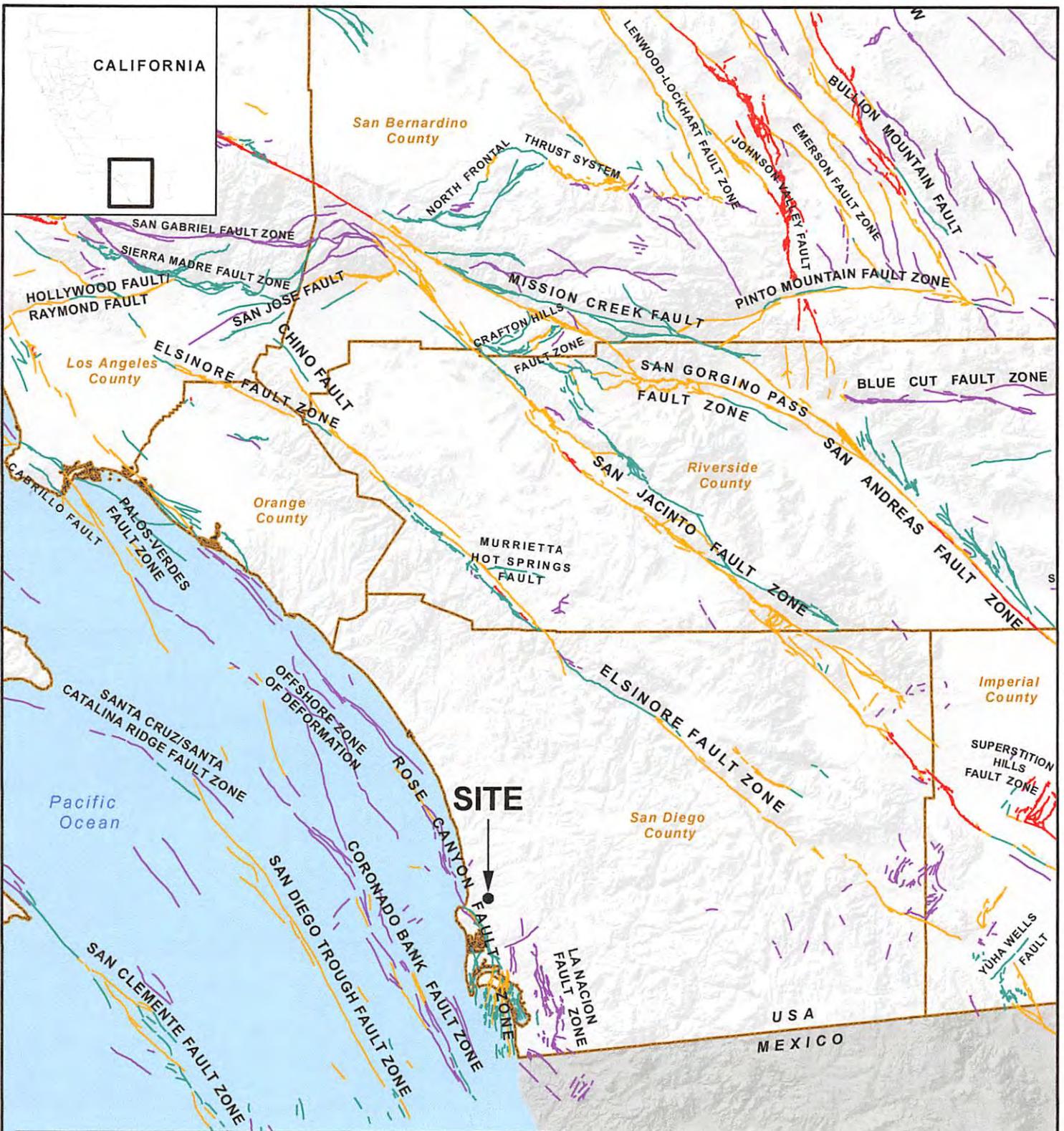
- B-3** BORING  
TD= TOTAL DEPTH IN FEET  
TD=11.0'
- HA-1** HAND AUGER BORING  
TD= TOTAL DEPTH IN FEET  
TD=3.5'
- Qaf** FILL
- Tsc** SCRIPPS FORMATION
- ? GEOLOGIC CONTACT, QUERIED WHERE UNCERTAIN
- PROPOSED REMEDIAL GRADING

NOTE: DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE



<b>Ninyo &amp; Moore</b>		<b>GEOLOGIC CROSS SECTION B-B'</b>	FIGURE
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	<b>4B</b>
107954001	8/16		

4b.107954001 cs-b-b'.dwg



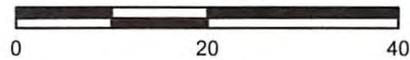
**LEGEND**

**CALIFORNIA FAULT ACTIVITY**

- HISTORICALLY ACTIVE
- HOLOCENE ACTIVE
- LATE QUATERNARY (POTENTIALLY ACTIVE)
- QUATERNARY (POTENTIALLY ACTIVE)
- STATE/COUNTY BOUNDARY

SOURCES: U.S. GEOLOGICAL SURVEY AND CALIFORNIA GEOLOGICAL SURVEY, 2006, QUATERNARY FAULT AND FOLD DATABASE FOR THE UNITED STATES, ACCESSED 2011, FROM USGS WEB SITE: [HTTP://EARTHQUAKES.USGS.GOV/REGIONAL/QFAULTS/](http://earthquakes.usgs.gov/regional/qfaults/)

SCALE IN MILES



NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

**Ninyo & Moore**

**FAULT LOCATIONS**

FIGURE

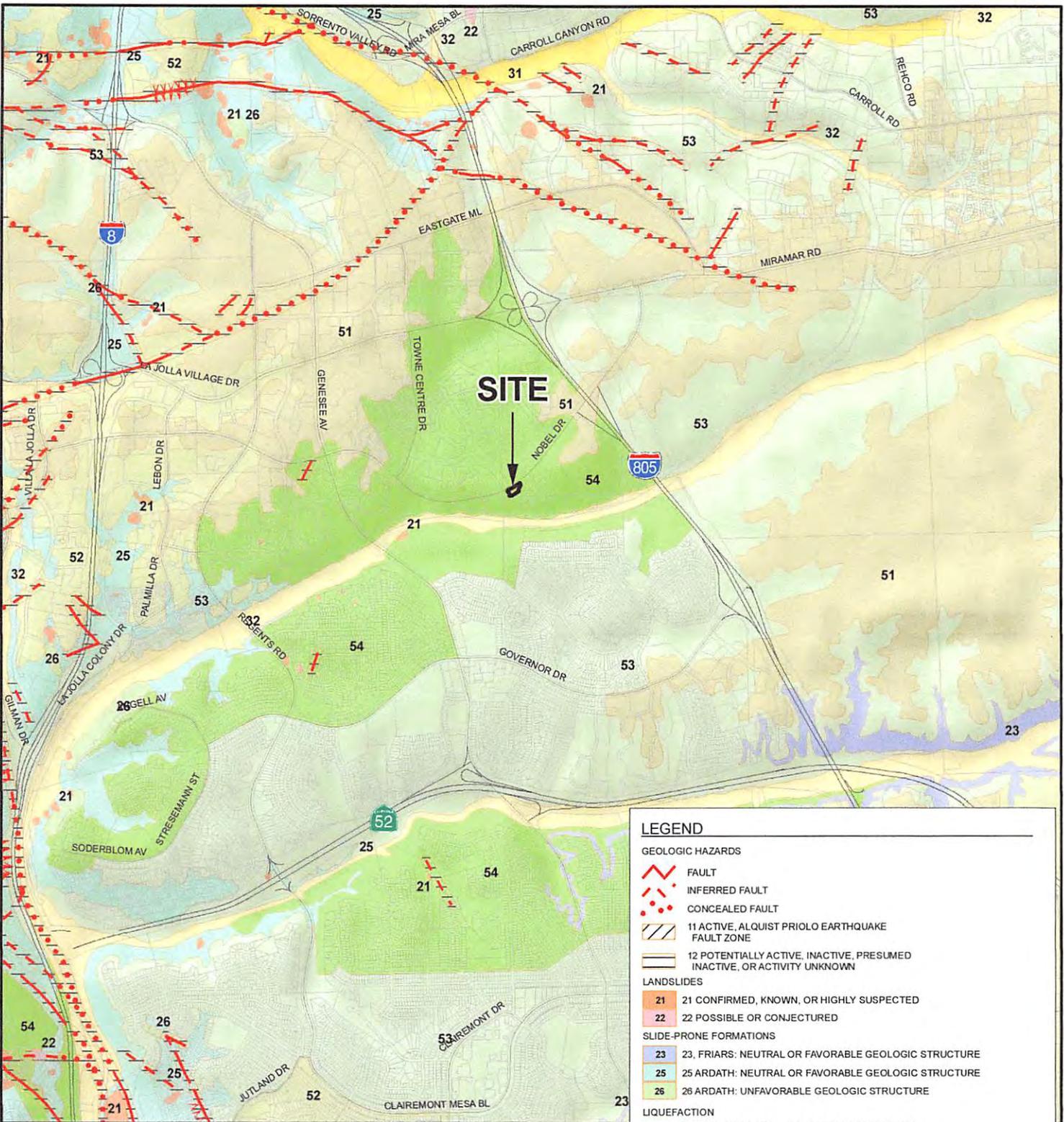
PROJECT NO.

DATE

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

684 **5** Page

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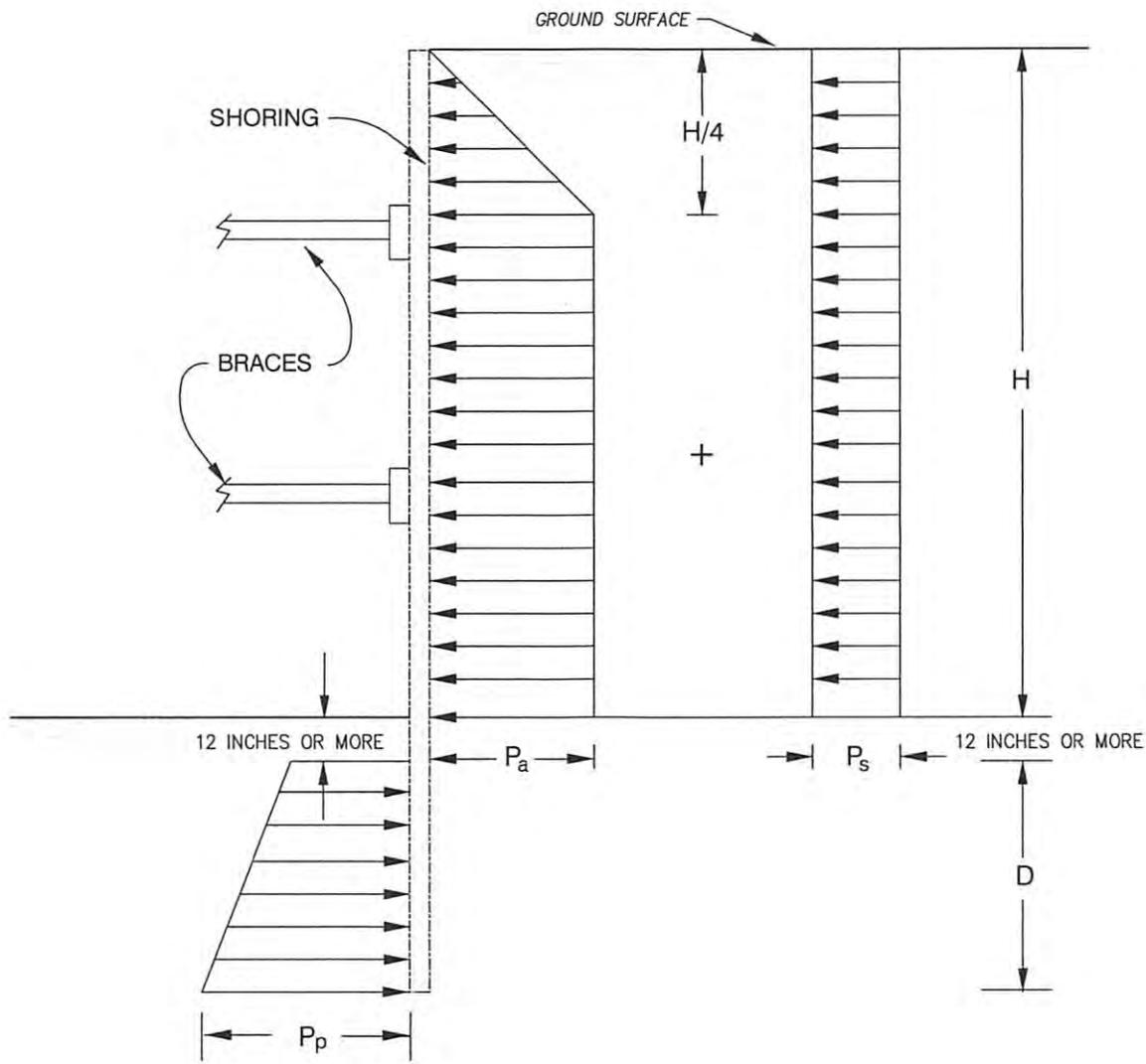


SOURCE: SANGIS, 2008, CITY OF SAN DIEGO SEISMIC SAFETY STUDY GEOLOGIC HAZARDS AND FAULTS.

NOTE: DIRECTIONS, DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

		<b>GEOLOGIC HAZARDS</b>		FIGURE  <b>6</b>

6: 107954001\_GH.mxd 8/10/2016 9:18:11 AM JDL



NOTES:

1. APPARENT LATERAL EARTH PRESSURE,  $P_a$   
 $P_a = 48 H$  psf
2. CONSTRUCTION TRAFFIC INDUCED SURCHARGE PRESSURE,  $P_s$   
 $P_s = 120$  psf
3. PASSIVE LATERAL EARTH PRESSURE,  $P_p$   
 $P_p = 120 D + 560$  psf
4. ASSUMES GROUNDWATER IS NOT PRESENT
5. SURCHARGES FROM EXCAVATED SOIL OR CONSTRUCTION MATERIALS ARE NOT INCLUDED
6. H AND D ARE IN FEET

NOT TO SCALE



**LATERAL EARTH PRESSURES FOR BRACED EXCAVATION (SOFT TO FIRM CLAY)**

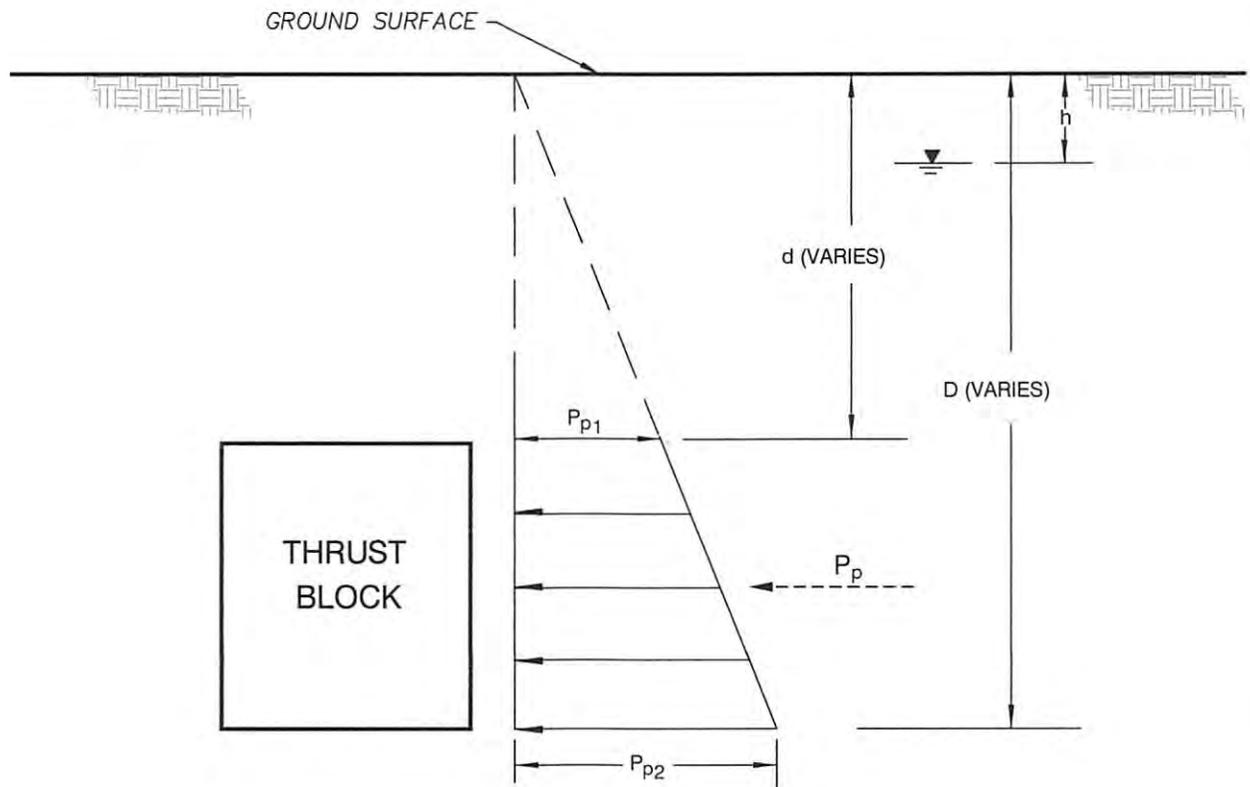
FIGURE

**7**

PROJECT NO.	DATE
107954001	8/16

PROPOSED FIRE STATION NO. 50  
 NOBEL DRIVE AND SHORELINE DRIVE  
 SAN DIEGO, CALIFORNIA

/ 10/954001 a-besc.dwg



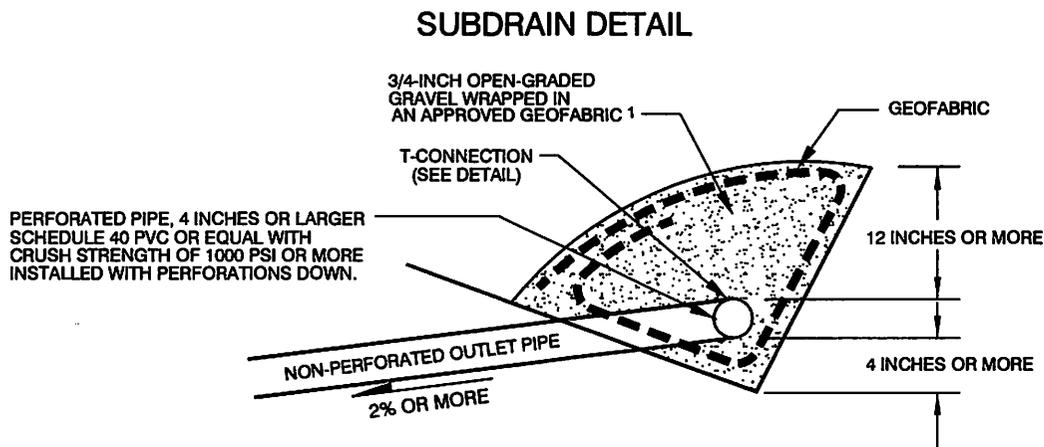
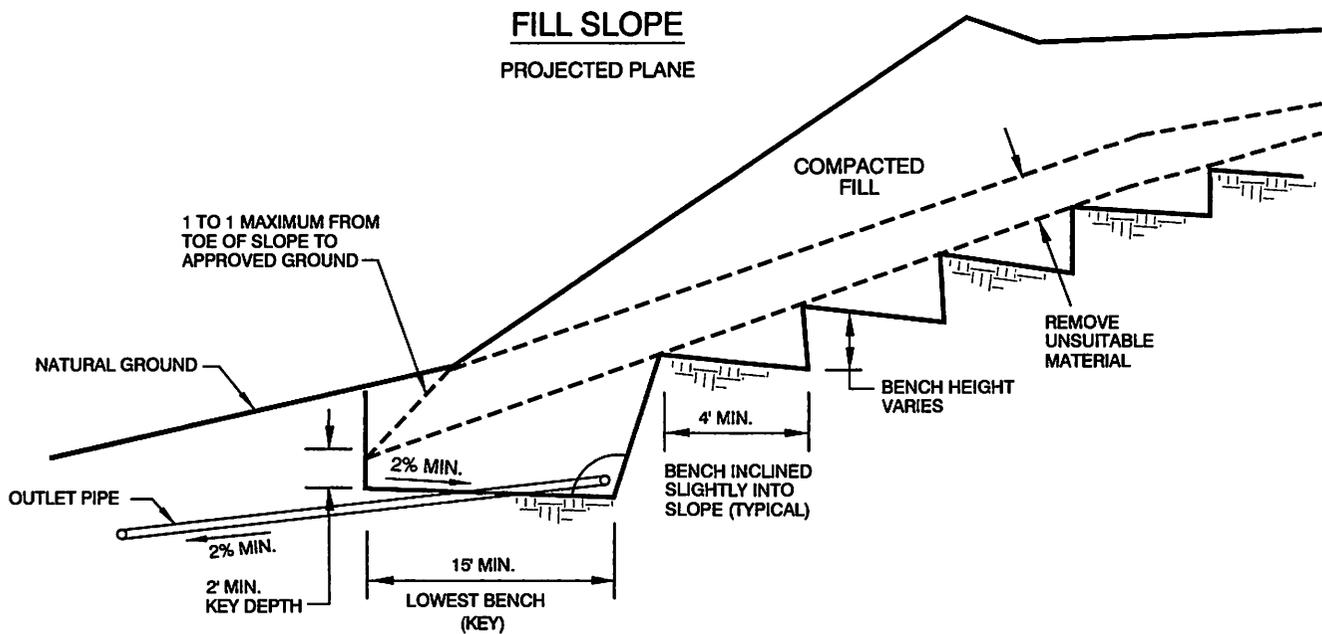
NOTES:

1. GROUNDWATER BELOW BLOCK  
 $P_p = 165 (D^2 - d^2) \text{ lb/ft}$
2. GROUNDWATER ABOVE BLOCK  
 $P_p = 1.4 (D - d) [ 124.8h + 57.6 (D + d) ] \text{ lb/ft}$
3. ASSUMES BACKFILL IS GRANULAR MATERIAL
4. ASSUMES THRUST BLOCK IS ADJACENT TO COMPETENT MATERIAL
5. D, d AND h ARE IN FEET
6.  GROUNDWATER TABLE

NOT TO SCALE

8 107954001 d-ib.dwg

		<b>THRUST BLOCK LATERAL EARTH PRESSURE DIAGRAM</b>	FIGURE
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	<b>8</b>
107954001	8/16		



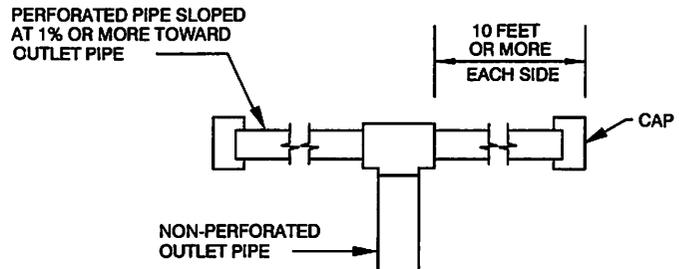
### FILTER MATERIAL

FILTER MATERIAL SHALL BE CLASS II PERMEABLE MATERIAL PER STATE OF CALIFORNIA STANDARD SPECIFICATION OR APPROVED GRAVEL AND FILTER FABRIC WRAP ALTERNATIVE

CLASS II GRADATION

SIEVE SIZE	PERCENT PASSING
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15

### T-CONNECTION DETAIL



NOTE: <sup>1</sup>AS AN ALTERNATIVE, AN APPROVED GEOCOMPOSITE DRAIN SYSTEM MAY BE USED.

**Ninyo & Moore**

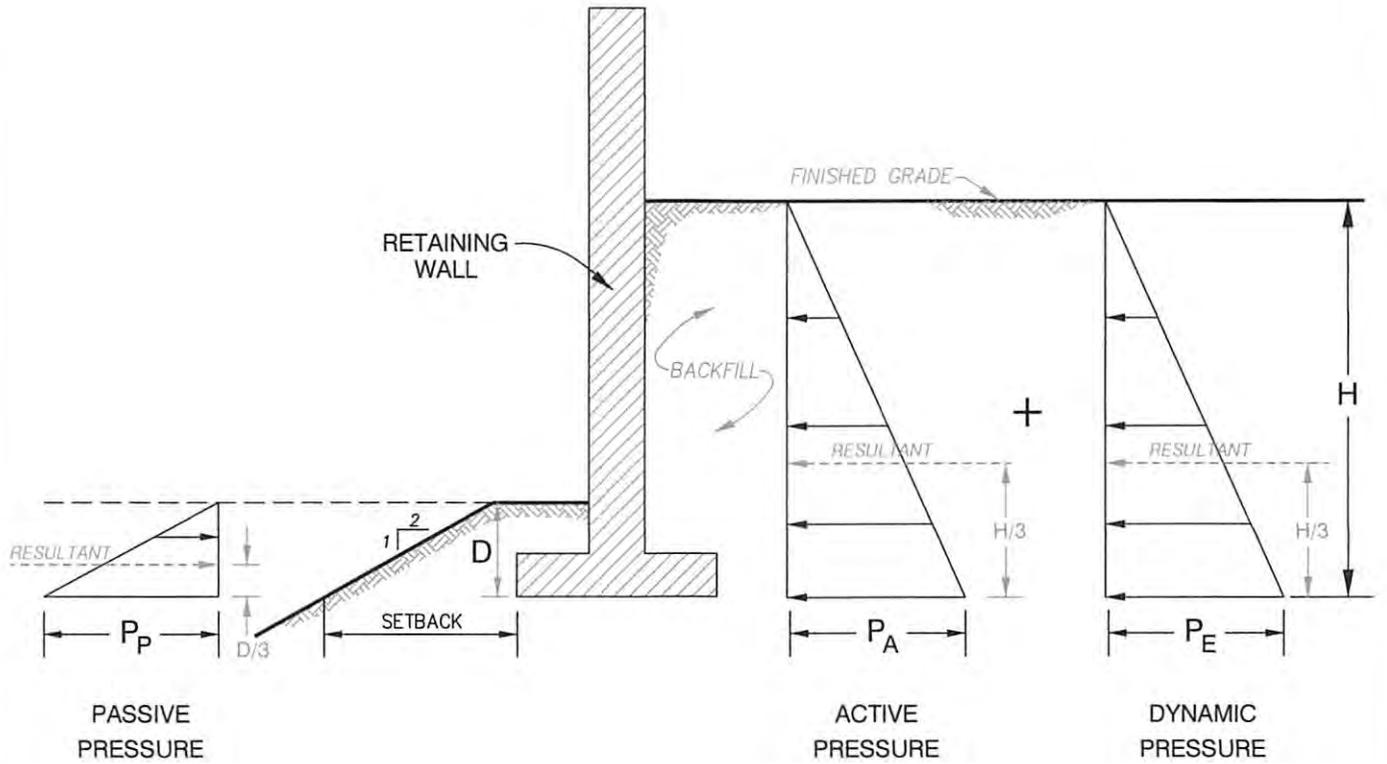
### KEYING AND BENCHING DETAIL

FIGURE

PROJECT NO.	DATE
107954001	8/16

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

**9**



NOTES:

1. ASSUMES NO HYDROSTATIC PRESSURE BUILD-UP BEHIND THE RETAINING WALL
2. STRUCTURAL, GRANULAR BACKFILL MATERIALS SHOULD BE USED FOR RETAINING WALL BACKFILL
3. DRAINS AS RECOMMENDED IN THE RETAINING WALL DRAINAGE DETAIL SHOULD BE INSTALLED BEHIND THE RETAINING WALL
4. DYNAMIC LATERAL EARTH PRESSURE IS BASED ON A PEAK GROUND ACCELERATION OF 0.44g
5.  $P_E$  IS CALCULATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF MONONOBE AND MATSUO (1929), AND ATIK AND SITAR (2010).
6. SURCHARGE PRESSURES CAUSED BY VEHICLES OR NEARBY STRUCTURES ARE NOT INCLUDED
7.  $H$  AND  $D$  ARE IN FEET
8. SETBACK SHOULD BE IN ACCORDANCE WITH THE CBC

RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS

Lateral Earth Pressure	Equivalent Fluid Pressure (lb/ft <sup>2</sup> /ft) <sup>(1)</sup>	
	Level Backfill with Granular Soils <sup>(2)</sup>	2H:1V Sloping Backfill with Granular Soils <sup>(2)</sup>
$P_A$	40 H	64 H
$P_E$	20 H	
$P_P$	Level Ground	2H:1V Descending Ground
	360 D	135 D

NOT TO SCALE



LATERAL EARTH PRESSURES FOR YIELDING RETAINING WALLS

FIGURE

PROJECT NO.

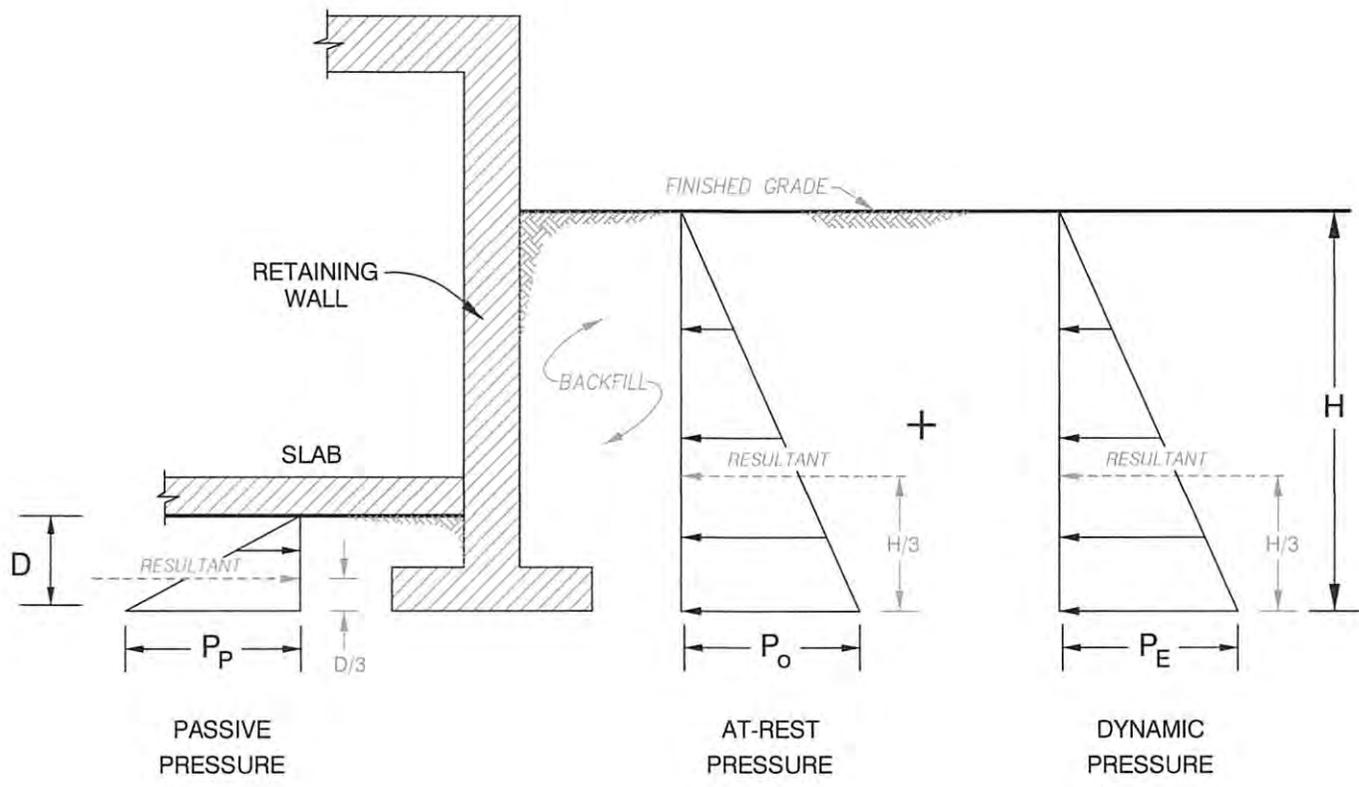
DATE

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

107954001

8/16

10



NOTES:

1. ASSUMES NO HYDROSTATIC PRESSURE BUILD-UP BEHIND THE RETAINING WALL
2. STRUCTURAL, GRANULAR BACKFILL MATERIALS SHOULD BE USED FOR RETAINING WALL BACKFILL
3. DRAINS AS RECOMMENDED IN THE RETAINING WALL DRAINAGE DETAIL SHOULD BE INSTALLED BEHIND THE RETAINING WALL
4. DYNAMIC LATERAL EARTH PRESSURE IS BASED ON A PEAK GROUND ACCELERATION OF 0.44g
5.  $P_E$  IS CALCULATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF MONONOBE AND MATSUO (1929), AND ATIK AND SITAR (2010).
6. SURCHARGE PRESSURES CAUSED BY VEHICLES OR NEARBY STRUCTURES ARE NOT INCLUDED
7. H AND D ARE IN FEET

RECOMMENDED GEOTECHNICAL DESIGN PARAMETERS

Lateral Earth Pressure	Equivalent Fluid Pressure (lb/ft <sup>2</sup> /ft) <sup>(1)</sup>	
	Level Backfill with Granular Soils <sup>(2)</sup>	2H:1V Sloping Backfill with Granular Soils <sup>(2)</sup>
$P_O$	60 H	87 H
$P_E$	20 H	
$P_P$	Level Ground	2H:1V Descending Ground
	360 D	135 D

NOT TO SCALE



**LATERAL EARTH PRESSURES FOR RESTRAINED RETAINING WALLS**

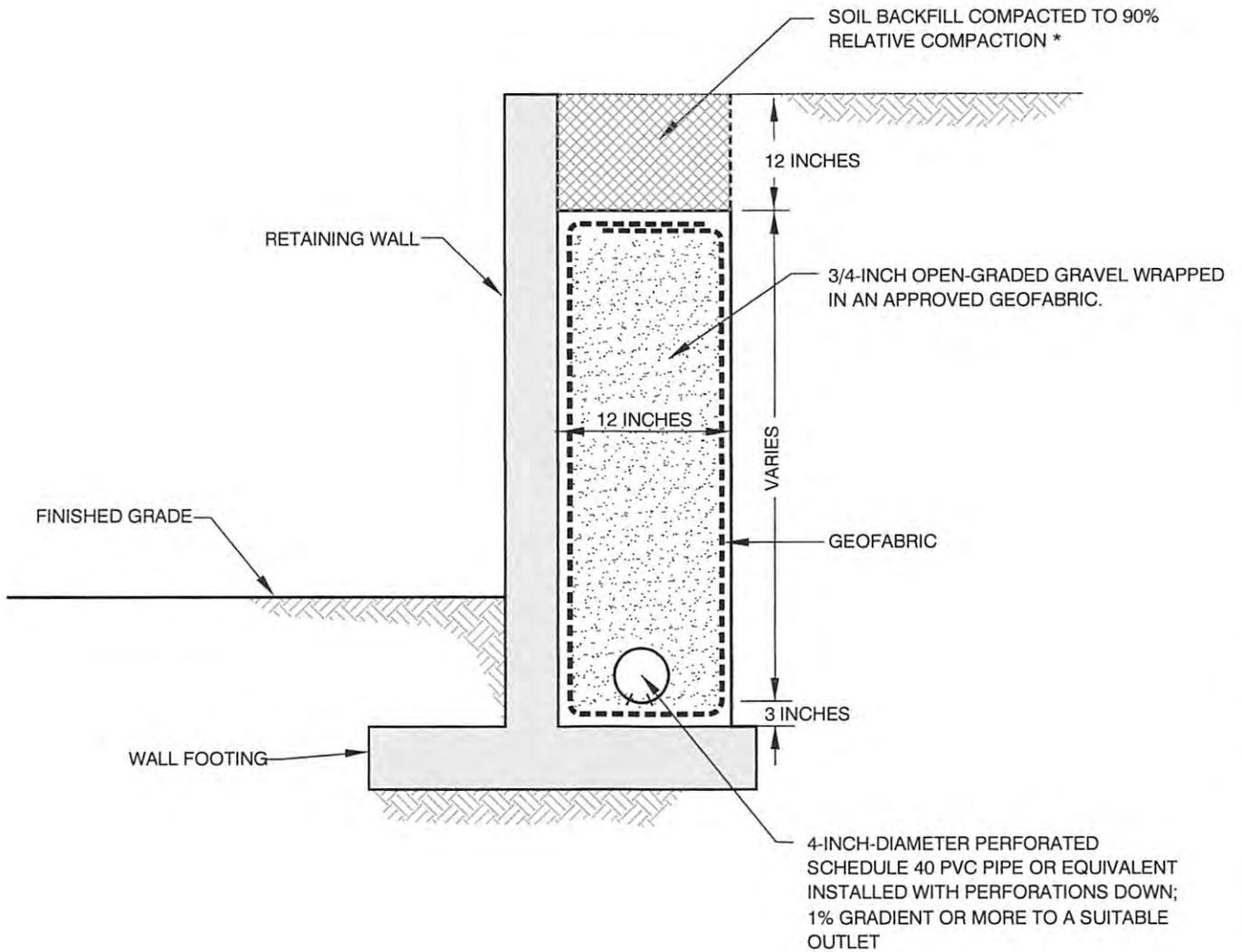
FIGURE

**11**

PROJECT NO.	DATE
107954001	8/16

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

11 107954001 d-rnw.dwg



\*BASED ON ASTM D1557

NOT TO SCALE

NOTE: AS AN ALTERNATIVE, AN APPROVED GEOCOMPOSITE DRAIN SYSTEM MAY BE USED.

**Ninyo & Moore**

**RETAINING WALL DRAINAGE DETAIL**

FIGURE

PROJECT NO.

DATE

PROPOSED FIRE STATION NO. 50  
NOBEL DRIVE AND SHORELINE DRIVE  
SAN DIEGO, CALIFORNIA

**12**

107954001

8/16

## **APPENDIX A**

### **BORING LOGS**

#### **Field Procedure for the Collection of Disturbed Samples**

Disturbed soil samples were obtained in the field using the following methods.

##### **Bulk Samples**

Bulk samples of representative earth materials were obtained from the exploratory excavations. The samples were bagged and transported to the laboratory for testing.

##### **The Standard Penetration Test (SPT) Sampler**

Disturbed drive samples of earth materials were obtained by means of a Standard Penetration Test sampler. The sampler is composed of a split barrel with an external diameter of 2 inches and an unlined internal diameter of 1-3/8 inches. The sampler was driven into the ground 12 to 18 inches with a 140-pound hammer free-falling from a height of 30 inches in general accordance with ASTM D 1586. The blow counts were recorded for every 6 inches of penetration; the blow counts reported on the logs are those for the last 12 inches of penetration. Soil samples were observed and removed from the sampler, bagged, sealed and transported to the laboratory for testing.

#### **Field Procedure for the Collection of Relatively Undisturbed Samples**

Relatively undisturbed soil samples were obtained in the field using the following methods.

##### **The Modified Split-Barrel Drive Sampler**

The sampler, with an external diameter of 3.0 inches, was lined with 1-inch long, thin brass rings with inside diameters of approximately 2.4 inches. The sample barrel was driven into the ground with the weight of a hammer or the Kelly bar of the drill rig in general accordance with ASTM D 3550. The driving weight was permitted to fall freely. The approximate length of the fall, the weight of the hammer or bar, and the number of blows per foot of driving are presented on the boring logs as an index to the relative resistance of the materials sampled. The samples were removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

# BORING LOG EXPLANATION SHEET

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	
	Bulk	Driven						
0								Bulk sample.
								Modified split-barrel drive sampler.
								2-inch inner diameter split-barrel drive sampler.
								No recovery with modified split-barrel drive sampler, or 2-inch inner diameter split-barrel drive sampler.
								Sample retained by others.
5								Standard Penetration Test (SPT).
								No recovery with a SPT.
			XX/XX					Shelby tube sample. Distance pushed in inches/length of sample recovered in inches.
								No recovery with Shelby tube sampler.
								Continuous Push Sample.
10				∞				Seepage.
				∞				Groundwater encountered during drilling.
				∞				Groundwater measured after drilling.
							SM	<b>MAJOR MATERIAL TYPE (SOIL):</b> Solid line denotes unit change.
							CL	Dashed line denotes material change.
								Attitudes: Strike/Dip b: Bedding c: Contact j: Joint f: Fracture F: Fault cs: Clay Seam s: Shear bss: Basal Slide Surface sf: Shear Fracture sz: Shear Zone sbs: Shear Bedding Surface
								The total depth line is a solid line that is drawn at the bottom of the boring.
20								



## BORING LOG

Explanation of Boring Log Symbols

PROJECT NO.

DATE

FIGURE Page

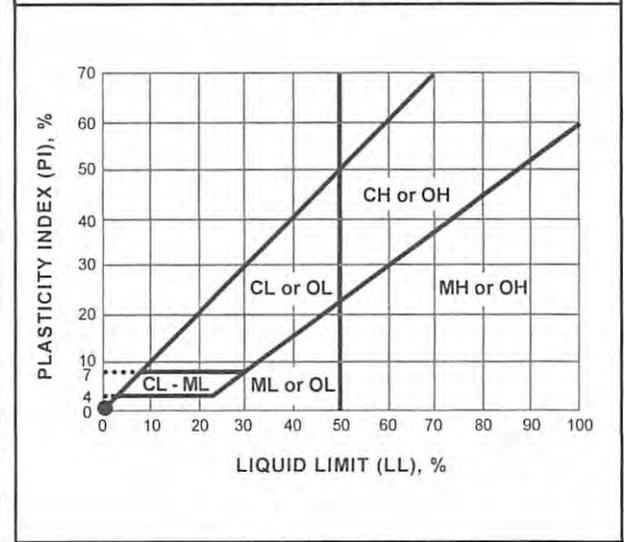
## SOIL CLASSIFICATION CHART PER ASTM D 2488

PRIMARY DIVISIONS		SECONDARY DIVISIONS		
		GROUP SYMBOL	GROUP NAME	
<b>COARSE-GRAINED SOILS</b> more than 50% retained on No. 200 sieve	<b>GRAVEL</b> more than 50% of coarse fraction retained on No. 4 sieve	CLEAN GRAVEL less than 5% fines	GW	well-graded GRAVEL
			GP	poorly graded GRAVEL
		GRAVEL with DUAL CLASSIFICATIONS 5% to 12% fines	GW-GM	well-graded GRAVEL with silt
			GP-GM	poorly graded GRAVEL with silt
			GW-GC	well-graded GRAVEL with clay
			GP-GC	poorly graded GRAVEL with clay
			GM	silty GRAVEL
		GRAVEL with FINES more than 12% fines	GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SW		well-graded SAND	
	<b>SAND</b> 50% or more of coarse fraction passes No. 4 sieve	CLEAN SAND less than 5% fines	SP	poorly graded SAND
			SW-SM	well-graded SAND with silt
		SAND with DUAL CLASSIFICATIONS 5% to 12% fines	SP-SM	poorly graded SAND with silt
			SW-SC	well-graded SAND with clay
			SP-SC	poorly graded SAND with clay
			SM	silty SAND
			SC	clayey SAND
		SAND with FINES more than 12% fines	SC-SM	silty, clayey SAND
INORGANIC			CL	lean CLAY
	ML		SILT	
	CL-ML	silty CLAY		
<b>SILT and CLAY</b> liquid limit less than 50%	ORGANIC	OL (PI > 4)	organic CLAY	
		OL (PI < 4)	organic SILT	
	INORGANIC	CH	fat CLAY	
		MH	elastic SILT	
<b>SILT and CLAY</b> liquid limit 50% or more	ORGANIC	OH (plots on or above "A"-line)	organic CLAY	
		OH (plots below "A"-line)	organic SILT	
	PT	Peat		
Highly Organic Soils				

## GRAIN SIZE

DESCRIPTION	SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders	> 12"	> 12"	Larger than basketball-sized
Cobbles	3 - 12"	3 - 12"	Fist-sized to basketball-sized
Gravel	Coarse	3/4 - 3"	Thumb-sized to fist-sized
	Fine	#4 - 3/4"	Pea-sized to thumb-sized
Sand	Coarse	#10 - #4	Rock-salt-sized to pea-sized
	Medium	#40 - #10	Sugar-sized to rock-salt-sized
	Fine	#200 - #40	Flour-sized to sugar-sized
Fines	Passing #200	< 0.0029"	Flour-sized and smaller

## PLASTICITY CHART



### APPARENT DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPOOLING CABLE OR CATHEAD		AUTOMATIC TRIP HAMMER	
	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)
Very Loose	≤ 4	≤ 8	≤ 3	≤ 5
Loose	5 - 10	9 - 21	4 - 7	6 - 14
Medium Dense	11 - 30	22 - 63	8 - 20	15 - 42
Dense	31 - 50	64 - 105	21 - 33	43 - 70
Very Dense	> 50	> 105	> 33	> 70

### CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPOOLING CABLE OR CATHEAD		AUTOMATIC TRIP HAMMER	
	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)	SPT (blows/foot)	MODIFIED SPLIT BARREL (blows/foot)
Very Soft	< 2	< 3	< 1	< 2
Soft	2 - 4	3 - 5	1 - 3	2 - 3
Firm	5 - 8	6 - 10	4 - 5	4 - 6
Stiff	9 - 15	11 - 20	6 - 10	7 - 13
Very Stiff	16 - 30	21 - 39	11 - 20	14 - 26
Hard	> 30	> 39	> 20	> 26



## USCS METHOD OF SOIL CLASSIFICATION

Explanation of USCS Method of Soil Classification

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>7/19/16</u> BORING NO. <u>B-1</u>	
	Bulk	Driven						GROUND ELEVATION <u>309' ± (MSL)</u>	SHEET <u>1</u> OF <u>1</u>
								METHOD OF DRILLING <u>8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)</u>	
								DRIVE WEIGHT <u>140 lbs. (Auto-Trip)</u> DROP <u>30"</u>	
								SAMPLED BY <u>GLC</u> LOGGED BY <u>GLC</u> REVIEWED BY <u>GTF</u>	
								<b>DESCRIPTION/INTERPRETATION</b>	
0							CL	<b>FILL:</b> Light brown, moist, soft to firm, silty CLAY; some gravel.	
			36					Hard.	
10			50/5"	15.9	109.9			<b>SCRIPPS FORMATION:</b> Light gray, moist, moderately to strongly cemented, sandy SILTSTONE; iron-oxide staining.	
			84/11"	12.3	100.6			Gray; weakly to moderately cemented.	
			88/10"					Light brown; weakly cemented.	
20								Total Depth = 19.8 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.	
								<b>Note:</b> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.	
								The ground elevation shown above is an estimation only. It is based on our interpretation of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.	
30									
40									

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>7/19/16</u> BORING NO. <u>B-2</u>	
	Bulk	Driven						GROUND ELEVATION <u>300' ± (MSL)</u>	SHEET <u>1</u> OF <u>1</u>
								METHOD OF DRILLING <u>8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)</u>	
								DRIVE WEIGHT <u>140 lbs. (Auto-Trip)</u> DROP <u>30"</u>	
								SAMPLED BY <u>GLC</u> LOGGED BY <u>GLC</u> REVIEWED BY <u>GTF</u>	
<b>DESCRIPTION/INTERPRETATION</b>									
0							CL	<b>FILL:</b> Light brown, moist, soft to firm, silty CLAY; some cobbles.	
			50/5"	12.9	103.2			<b>SCRIPPS FORMATION:</b> Light gray, moist, moderately indurated, silty CLAYSTONE; iron-oxide staining.	
10			50/6"					Total Depth = 10.5 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.	
								<b>Note:</b> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.	
								The ground elevation shown above is an estimation only. It is based on our interpretation of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.	
20									
30									
40									

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.	
	Bulk	Driven						7/19/16	B-3	
								GROUND ELEVATION	SHEET	OF
								309' ± (MSL)	1	1
								METHOD OF DRILLING 8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)		
								DRIVE WEIGHT	DROP	
								140 lbs. (Auto-Trip)	30"	
								SAMPLED BY	LOGGED BY	REVIEWED BY
								GLC	GLC	GTF
<b>DESCRIPTION/INTERPRETATION</b>										
0							CL	<b>FILL:</b> Reddish to yellowish brown, moist, soft to firm, sandy CLAY.		
			50/4"					<b>SCRIPPS FORMATION:</b> Light gray, moist, moderately to strongly indurated, clayey SILTSTONE; iron-oxide staining.		
10			50/6"	16.0	103.3			Weakly to moderately indurated; less iron-oxide staining.		
								Total Depth = 11 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.		
								<u>Note:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.		
								The ground elevation shown above is an estimation only. It is based on our interpretation of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.		
20										
30										
40										

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED <u>7/19/16</u> BORING NO. <u>B-4</u>		
	Bulk	Driven						GROUND ELEVATION <u>300' ± (MSL)</u>	SHEET <u>1</u> OF <u>1</u>	METHOD OF DRILLING <u>8" Diameter Hollow Stem Auger (CME-75) (Baja Exploration)</u>
								DRIVE WEIGHT <u>140 lbs. (Auto-Trip)</u>	DROP <u>30"</u>	SAMPLED BY <u>GLC</u> LOGGED BY <u>GLC</u> REVIEWED BY <u>GTF</u>
								<b>DESCRIPTION/INTERPRETATION</b>		
0							GC	<b>FILL:</b> Light brown, moist, loose to medium dense, clayey GRAVEL; some cobbles.		
			44					<b>SCRIPPS FORMATION:</b> Light brown, moist, moderately to strongly indurated, clayey SILTSTONE.		
10			66					Iron-oxide staining.		
			50/6"					Light gray; weakly to moderately indurated; trace sand.		
			50/6"							
20								Total Depth = 19.5 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.		
								<u>Note:</u> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.		
								The ground elevation shown above is an estimation only. It is based on our interpretation of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.		
30										
40										

DEPTH (feet)	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED	BORING NO.				
	Bulk	Driven						7/19/16	HA-1				
								GROUND ELEVATION	SHEET	OF			
								305' ± (MSL)	1	1			
								METHOD OF DRILLING	3" Diameter Hand Auger				
								DRIVE WEIGHT	N/A	DROP	N/A		
								SAMPLED BY	GLC	LOGGED BY	GLC	REVIEWED BY	GTF
								<b>DESCRIPTION/INTERPRETATION</b>					
0							CL	<b>FILL:</b> Light brown, moist, soft to firm, silty CLAY; some cobbles.					
								<b>SCRIPPS FORMATION:</b> Light gray, moist, moderately to strongly cemented, clayey SILTSTONE; trace sand; iron-oxide staining. Total Depth = 3.5 feet. Groundwater not encountered during drilling. Backfilled with cuttings shortly after drilling on 7/19/16.					
10								<b>Note:</b> Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.					
								The ground elevation shown above is an estimation only. It is based on our interpretation of published maps and other documents reviewed for the purposes of this evaluation. It is not sufficiently accurate for preparing construction bids and design documents.					
20													
30													
40													

## **APPENDIX B**

### **LABORATORY TESTING**

#### **Classification**

Soils were visually and texturally classified in accordance with the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. Soil classifications are indicated on the logs of the exploratory excavations in Appendix A.

#### **In-Place Moisture and Density Tests**

The moisture content and dry density of relatively undisturbed samples obtained from the exploratory excavations were evaluated in general accordance with ASTM D 2937. The test results are presented on the logs of the exploratory excavations in Appendix A.

#### **Gradation Analysis**

Gradation analysis tests were performed on selected representative soil samples in general accordance with ASTM D 422. The grain-size distribution curves are shown on Figures B-1 and B-2. These test results were utilized in evaluating the soil classifications in accordance with the USCS.

#### **Atterberg Limits**

Tests were performed on selected representative fine-grained soil samples to evaluate the liquid limit, plastic limit, and plasticity index in general accordance with ASTM D 4318. These test results were utilized to evaluate the soil classification in accordance with the USCS. The test results and classifications are shown on Figure B-3.

#### **Direct Shear Tests**

Direct shear tests were performed on relatively undisturbed samples in general accordance with ASTM D 3080 to evaluate the shear strength characteristics of selected materials. The samples were inundated during shearing to represent adverse field conditions. The results are shown on Figure B-4.

#### **Expansion Index Tests**

The expansion index of selected materials was evaluated in general accordance with Uniform Building Code (UBC) Standard No. 18-2 (ASTM D 4829). Specimens were molded under a specified compactive energy at approximately 50 percent saturation (plus or minus 1 percent). The prepared 1-inch thick by 4-inch diameter specimens were loaded with a surcharge of 144 pounds per square foot and were inundated with tap water. Readings of volumetric swell were made for a period of 24 hours. The results of these tests are presented on Figure B-5.

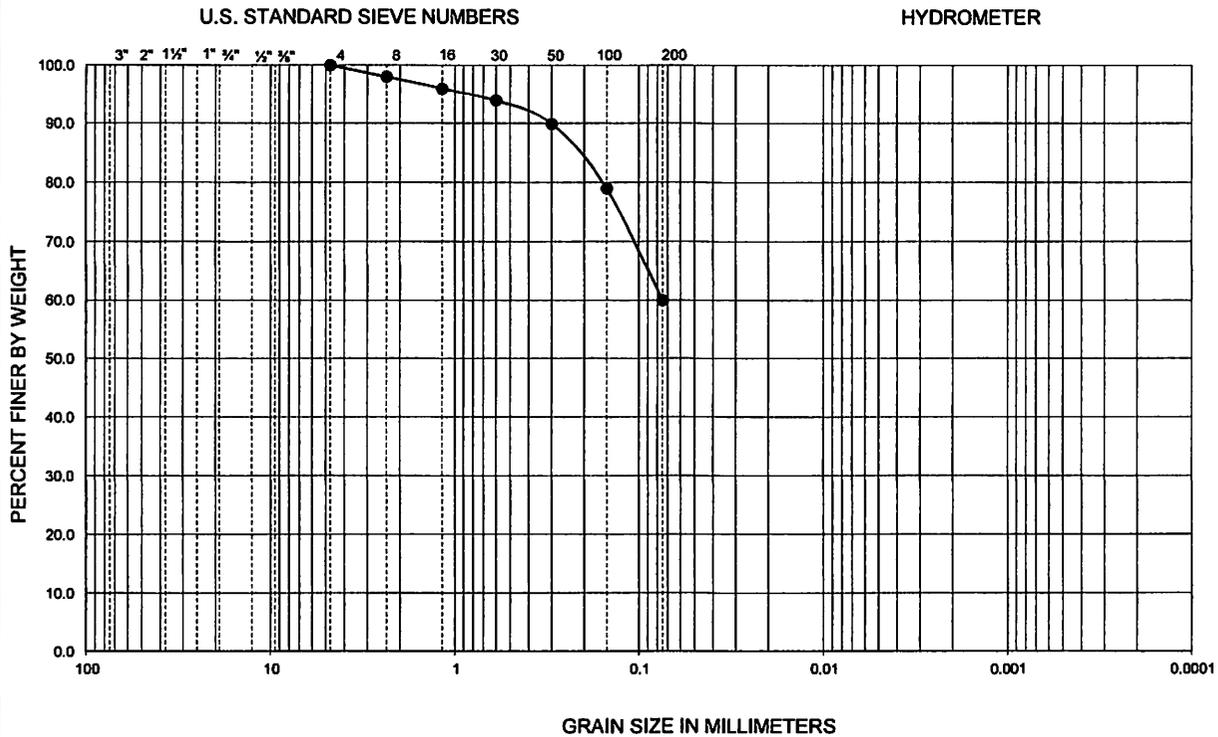
### **Soil Corrosivity Tests**

Soil pH, and resistivity tests were performed on a representative sample in general accordance with CT 643. The soluble sulfate and chloride content of a selected sample were evaluated in general accordance with CT 417 and CT 422, respectively. The test results are presented on Figure B-6.

### **R-Value**

The resistance value, or R-value, for site soils was evaluated in general accordance with CT 301. A sample was prepared and evaluated for exudation pressure and expansion pressure. The equilibrium R-value is reported as the lesser or more conservative of the two calculated results. The test results are shown on Figure B-7.

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

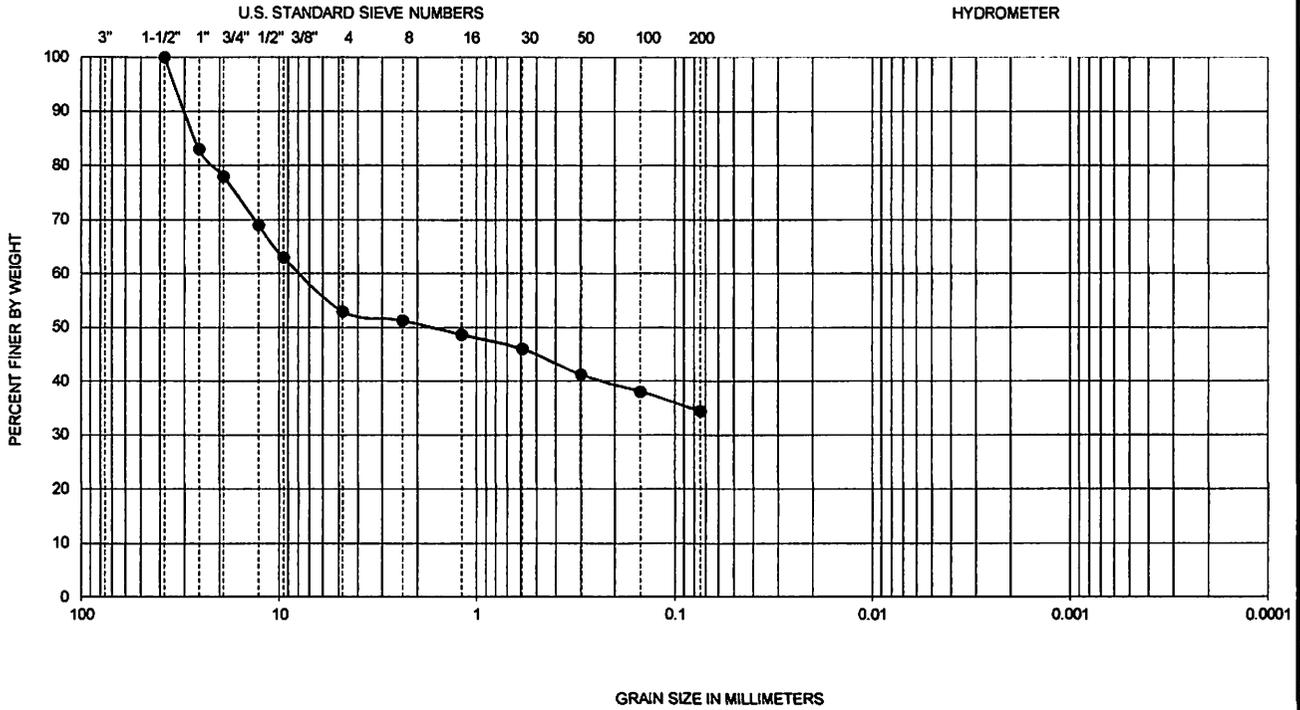


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D <sub>10</sub>	D <sub>30</sub>	D <sub>60</sub>	C <sub>u</sub>	C <sub>c</sub>	Passing No. 200 (%)	USCS
●	B-3	0.0-5.0	35	18	17	-	-	-	-	-	60	CL

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

<b>Ninyo &amp; Moore</b>		<b>GRADATION TEST RESULTS</b>		<b>FIGURE</b>  <b>B-1</b>
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA		
107954001	8/16			

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay

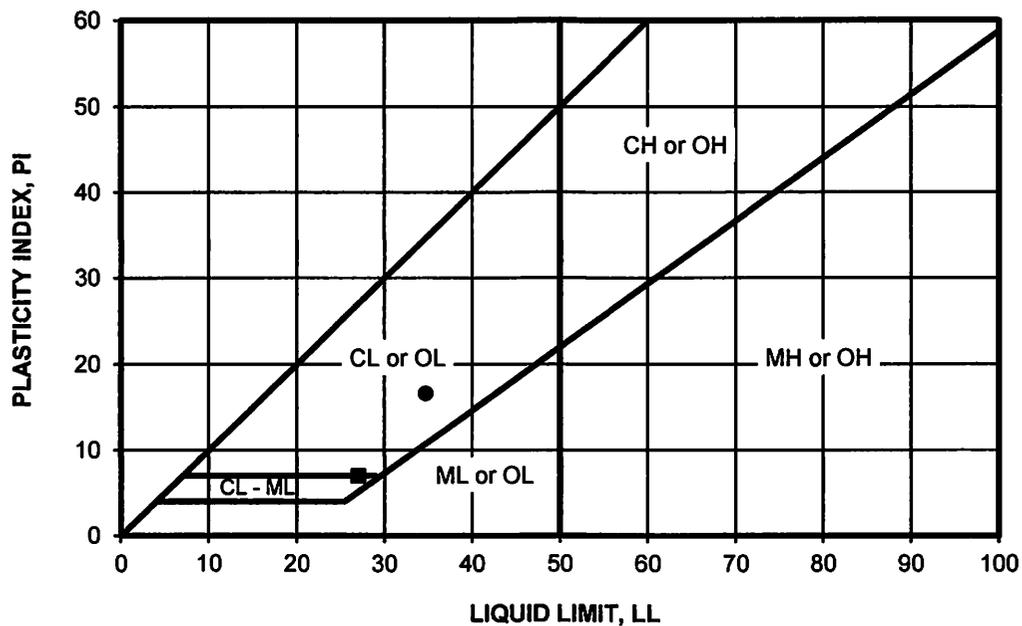


Symbol	Sample Location	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	D <sub>10</sub>	D <sub>30</sub>	D <sub>60</sub>	C <sub>u</sub>	C <sub>c</sub>	Passing No. 200 (%)	USCS
●	B-4	0.0-5.0	27	20	7	—	—	—	—	—	34	GC

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 422

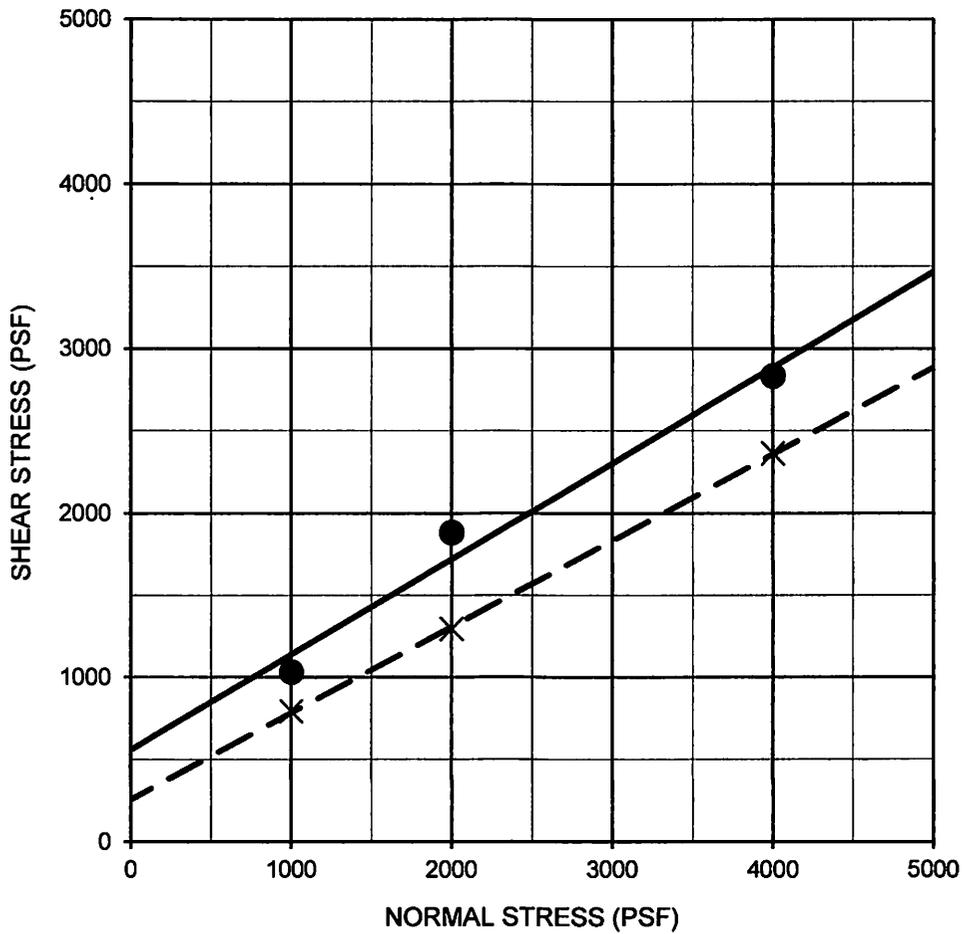
<b>Ninyo &amp; Moore</b>		<b>GRADATION TEST RESULTS</b>			<b>FIGURE</b> <b>B-2</b>
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50			
107954001	8/16	NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA			

SYMBOL	LOCATION	DEPTH (FT)	LIQUID LIMIT, LL	PLASTIC LIMIT, PL	PLASTICITY INDEX, PI	USCS CLASSIFICATION (Fraction Finer Than No. 40 Sieve)	USCS (Entire Sample)
●	B-3	0.0-5.0	35	18	17	CL	CL
■	B-4	0.0-5.0	27	20	7	CL-ML	GC



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318

<b>Ninyo &amp; Moore</b>		<b>ATTERBERG LIMITS TEST RESULTS</b>	FIGURE <b>B-3</b>
PROJECT NO. 107954001	DATE 8/16		



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, $\phi$ (degrees)	Soil Type
Sandy SILTSTONE	—●—	B-1	10.0-11.5	Peak	560	30	Formation
Sandy SILTSTONE	- - X - -	B-1	10.0-11.5	Ultimate	260	28	Formation

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080

<b>Ninyo &amp; Moore</b>		<b>DIRECT SHEAR TEST RESULTS</b>		FIGURE <b>B-4</b>
PROJECT NO.	DATE	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA		
107954001	8/16			

SAMPLE LOCATION	SAMPLE DEPTH (FT)	INITIAL MOISTURE (%)	COMPACTED DRY DENSITY (PCF)	FINAL MOISTURE (%)	VOLUMETRIC SWELL (IN)	EXPANSION INDEX	POTENTIAL EXPANSION
B-2	0.0-5.0	12.5	101.2	24.1	0.092	93	High
B-3	0.0-5.0	11.5	103.3	26.3	0.081	80	Medium
B-4	0.0-5.0	10.0	110.1	20.1	0.034	34	Low

PERFORMED IN GENERAL ACCORDANCE WITH

UBC STANDARD 18

ASTM D 4829

<b>Ninyo &amp; Moore</b>		<b>EXPANSION INDEX TEST RESULTS</b>	FIGURE <b>B-5</b>
PROJECT NO. 107954001	DATE 8/16		
		PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	

SAMPLE LOCATION	SAMPLE DEPTH (FT)	INITIAL MOISTURE (%)	COMPACTED DRY DENSITY (PCF)	FINAL MOISTURE (%)	VOLUMETRIC SWELL (IN)	EXPANSION INDEX	POTENTIAL EXPANSION
B-2	0.0-5.0	12.5	101.2	24.1	0.092	93	High
B-3	0.0-5.0	11.5	103.3	26.3	0.081	80	Medium
B-4	0.0-5.0	10.0	110.1	20.1	0.034	34	Low

PERFORMED IN GENERAL ACCORDANCE WITH

UBC STANDARD 18

ASTM D 4829

<b>Ninyo &amp; Moore</b>		<b>EXPANSION INDEX TEST RESULTS</b>	FIGURE <b>B-5</b>
PROJECT NO. 107954001	DATE 8/16		
		PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	

SAMPLE LOCATION	SAMPLE DEPTH (FT)	pH <sup>1</sup>	RESISTIVITY <sup>1</sup> (Ohm-cm)	SULFATE CONTENT <sup>2</sup>		CHLORIDE CONTENT <sup>3</sup> (ppm)
				(ppm)	(%)	
B-4	0.0-5.0	7.1	1,300	30	0.003	165

- <sup>1</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643
- <sup>2</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417
- <sup>3</sup> PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

<b>Ninyo &amp; Moore</b>		<b>CORROSIVITY TEST RESULTS</b>	FIGURE <b>B-6</b>
PROJECT NO. 107954001	DATE 8/16		

SAMPLE LOCATION	SAMPLE DEPTH (FT)	SOIL TYPE	R-VALUE
HA-1	0.0-3.0	Sandy SILT (ML)	15

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 2844/CT 301

<b><i>Ninyo &amp; Moore</i></b>		<b>R-VALUE TEST RESULTS</b>	FIGURE <b>B-7</b>
PROJECT NO.	DATE		
107954001	8/16	PROPOSED FIRE STATION NO. 50 NOBEL DRIVE AND SHORELINE DRIVE SAN DIEGO, CALIFORNIA	

## Appendix C: Geotechnical and Groundwater Investigation Requirements

**Worksheet C.4-1: Categorization of Infiltration Feasibility Condition**

Categorization of Infiltration Feasibility Condition		Worksheet C.4-1	
Part 1 - Full Infiltration Feasibility Screening Criteria Would infiltration of the full design volume be feasible from a physical perspective without any undesirable consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
1	Is the estimated reliable infiltration rate below proposed facility locations greater than 0.5 inches per hour? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
Provide basis:  As indicated in our Geologic Reconnaissance report dated May 29, 2015, the site is underlain by fill, very old paralic deposits, and Scripps Formation. These soils comprised of silts, silty fine to medium sands, sandy siltstone and silty sandstone which have a very low permeability rate. Additionally, the USDA website classifies the soils as Huerhuero loam with D classification or very limited performance rating.  Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
2	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis:  As stated in Criteria 1, the soils are anticipated to have a very low permeability rate and infiltration for storm disposal should not be considered.  Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			

## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
<p>Provide basis:</p> <p>As stated in Criteria 1, the soils are classified such that they are not conducive to water infiltration.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
<p>Provide basis:</p> <p>As stated in Criteria 1, the soils are classified such that they are not conducive to water infiltration.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.</p>			
Part 1 Result*	<p>If all answers to rows 1 - 4 are "Yes" a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration</p> <p>If any answer from row 1-4 is "No", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2</p>		

\*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings.

## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.		X
Provide basis: Preliminary classification of soils and past experience in the area indicate that the soils are not conducive to water infiltration.			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: Preliminary classification of soils and past experience in the area indicate that the soils are not conducive to water infiltration.			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			

## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
<p>Provide basis:</p> <p>Preliminary classificaiton of soils and past experience in the area indicate that the soils are not conducive to water infiltration.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		X
<p>Provide basis:</p> <p>Preliminary classificaiton of soils and past experience in the area indicate that the soils are not conducive to water infiltration.</p> <p>Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.</p>			
Part 2 Result*	<p>If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration.</p> <p>If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.</p>		

\*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings

December 16, 2016  
Project No. 107954001

Mr. Scott Maas  
Safdie Rabines Architects  
925 Fort Stockton Drive  
San Diego, California 92103

Subject: Response to Review Comments Geology Review of Geotechnical Evaluation  
North University Fire Station No. 50  
Nobel Drive and Shoreline Drive  
San Diego, California

Dear Mr. Maas:

In accordance with your request, this letter has been prepared in response to the City of San Diego LDR - Geology comments dated October 4, 2016 regarding our project geologic reconnaissance and geotechnical evaluation reports (Ninyo & Moore, 2015 and 2016, respectively). Specifically, this letter provides responses to review comments 5, 6, and 15 in the City's review (City of San Diego, 2016a) of the project.

***Checklist Item 5 Comment:***

*The project's geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level. (From Cycle 2)*

**Response:**

As stated in Section 7 Conclusions of our referenced geotechnical evaluation report (Ninyo & Moore, 2016), "it is our opinion that construction of the proposed fire station is feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction of the project."

**Checklist Item 6 Comment:**

*According to the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 54, indicating potential slope instability. The project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion. (From Cycle 2)*

**Response:**

As discussed in Section 6.2 Landsliding of our referenced geotechnical evaluation report (Ninyo & Moore, 2016) our site reconnaissance and subsurface evaluation found competent Scripps Formation materials that did not exhibit evidence of fractures and/or zones of soft clay associated with shallow landsliding. Additionally, Section 8.1.11 New Slopes presents recommendations for construction of new slopes. Accordingly, it is our opinion that the slopes will be globally and surficially stable provided the recommendations presented in the referenced geotechnical evaluation report (Ninyo & Moore, 2016) are followed.

**Checklist Item 15 Comment:**

*This proposed development is a Priority Development Project (PDP). The project's geotechnical consultant must submit an addendum geotechnical report that provides the information required in the Storm Water Standards, Part 1, BMP Design Manual (<https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf>) and Appendix F of the City's Guidelines for Geotechnical Reports. (New Issue)*

**Response:**

This letter has been prepared as an addendum geotechnical report to the referenced reports (Ninyo & Moore, 2015 and 2016). Specifically, this addendum provides additional information and recommendations related to storm water BMPs and infiltration at the site.

Based on discussions and emails with the City of San Diego, we understand that the City accepts the use of NRCS soil survey maps to estimate infiltration rates during preliminary evaluations. The NRCS soil survey maps classify the onsite materials as Soil Group D. According to Table G.1-5 of the City of San Diego Storm Water BMP Design Manual (2016b), Soil Group D has a potential infiltration rate ranging between 0 and 0.02 inches per hour.

Although the potential infiltration rates of the onsite soils may be considered suitable for a partial infiltration site, from a geotechnical standpoint we do not recommend infiltration for this site. As stated in Section 7 Conclusions and Section 8.1.5 Materials for Fill of our referenced geotechnical evaluation report (Ninyo & Moore, 2016) “the onsite fill materials and materials derived from the Scripps Formation are clayey in nature and possess a high potential for expansion.” Additionally, as discussed in Section 8.12 Infiltration Devices of our referenced geotechnical evaluation report (Ninyo & Moore, 2016) the relatively impermeable nature of the fine-grained onsite soils and formation will result in lateral migration of subsurface water. These conditions (i.e., high expansion potential and potential for lateral migration of subsurface water) will result in potentially adverse effects to structures and site improvements (i.e., volumetric changes) and potential instabilities within adjacent slopes. Therefore, our recommendation is to line the bottom and sides of storm water control devices with an impermeable liner.

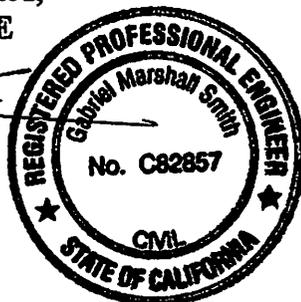
Based on discussions and emails with the City of San Diego, we understand that use of an impermeable liner is acceptable provided that the basins are designed to meet certain reduction criteria. The project civil engineer is providing calculations to show that the lined system will meet the City requirements.

As required by the City requirements presented in the Storm Water BMP Manual (2016b), we have provided updated responses to Worksheet C.4-1. The updated responses are attached for review and inclusion in the project resubmittal.

We appreciate the opportunity to be of service on this project.

Respectfully submitted,  
**NINYO & MOORE**

  
Gabriel Smith, PE  
Project Engineer



GS/RSH/gg

Attachments: References  
Attachment A – City of San Diego Review Comments  
Attachment B – Worksheet C.4-1

Distribution: (1) Addressee

  
Ronald S. Halbert, PE  
Principal Engineer



**REFERENCES**

City of San Diego, Cycle Issues, 2016a, North University Fire Station No. 50, Multi-Discipline Review: dated October 4.

City of San Diego, 2016b, Storm Water Standards, Part 1: BMP Design Manual for Permanent Site Design, Storm Water Treatment and Hydromodification Management: dated January.

Ninyo & Moore, 2015, Geologic Reconnaissance, Proposed Fire Station No. 50, Nobel Drive and Shoreline Drive, San Diego, California, Project No. 107954001: dated May 29.

Ninyo & Moore, 2016, Geotechnical Evaluation, Proposed Fire Station No. 50, Nobel Drive and Shoreline Drive, San Diego, California, Project No. 107954001: dated August 18.

**ATTACHMENT A**  
**CITY OF SAN DIEGO REVIEW COMMENTS**



THE CITY OF SAN DIEGO  
Development Services Department  
1222 First Avenue, San Diego, CA 92101-4154

L64A-003A

Project Information

Project Nbr: 463835 Title: N. Univ Fire Station No 50 SDP  
Project Mgr: Deisher, Helene (619) 446-5223 hmdeisher@sandiego.gov



Review Information

Cycle Type: 7 Submitted (Multi-Discipline) Submitted: 08/30/2016 Deemed Complete on 08/30/2016  
Reviewing Discipline: LDR-Planning Review Cycle Distributed: 08/30/2016  
Reviewer: Tracy, Christopher Assigned: 08/31/2016  
(619) 446-5381 Started: 09/12/2016  
CRTracy@sandiego.gov Review Due: 09/21/2016  
Hours of Review: 1.00 Completed: 09/20/2016 COMPLETED ON TIME  
Next Review Method: Conditions Closed: 10/03/2016

- The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- We request a 4th complete submittal for LDR-Planning Review on this project as: Conditions.
- The reviewer has requested more documents be submitted.
- Last month LDR-Planning Review performed 104 reviews, 74.0% were on-time, and 49.3% were on projects at less than < 3 complete submittals.

Cycle 2 - 2/10/16

GENERAL

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	2	GENERAL

This project is not located in the Coastal Overlay Zone and a Coastal Development Permit (CDP) is not required.

Site Development Permit Process CIP 2 (Tentative)

As proposed, this project will require a Site Development Permit Process CIP 2 for proximity or impacts to environmentally sensitive lands as described in SDMC Section 143.0110.

(From Cycle 2)

- 3 (2 OF 4) Any capital improvement program project (CIP) determined to be in compliance with the Environmentally Sensitive Lands Regulations without deviations will require a Site Development Permit Process CIP 2. See Section 143.0110- Table 143-01A - Applicability of Environmentally Sensitive Lands Regulations. (From Cycle 2)
- 4 (3 OF 4) In accordance with SDMC Section 126.0502 (f), an application for a Process CIP-Two decision may be initially approved, conditionally approved, or denied by a staff person designated by the City Manager pursuant to Section 111.0205. A public hearing will not be held. However, the project could be appealed to the City Council in accordance with Section 112.0603. (From Cycle 2)
- 5 (4 OF 4) In order for a discussion maker to consider your project for approval, the applicable findings to be made: TBD

Not all the reviews have completed their comments to make a final determination if there would be deviations related to a CIP 2 or 5 at this time. Further review is required once this has occurred. (From Cycle 2)

Cycle 6 - 6/3/16

GENERAL

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	26	GENERAL

This project is not located in the Coastal Overlay Zone and a Coastal Development Permit (CDP) is not required.

Site Development Permit Process CIP 2 (Tentative)

As proposed, this project will require a Site Development Permit Process CIP 2 for proximity or impacts to environmentally sensitive lands as described in SDMC Section 143.0110. (From Cycle 2) (From Cycle 6)

- 27 (2 OF 4) Any capital improvement program project (CIP) determined to be in compliance with the Environmentally Sensitive Lands Regulations without deviations will require a Site Development Permit Process CIP 2. See Section 143.0110- Table 143-01A - Applicability of Environmentally Sensitive Lands Regulations. (From Cycle 2) (From Cycle 6)



L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	28	(3 OF 4) In accordance with SDMC Section 126.0502 (f), an application for a Process CIP-Two decision may be initially approved, conditionally approved, or denied by a staff person designated by the City Manager pursuant to Section 111.0205. A public hearing will not be held. However, the project could be appealed to the City Council in accordance with Section 112.0603. (From Cycle 2) (From Cycle 6)
<input checked="" type="checkbox"/>	29	(4 OF 4) In order for a discussion maker to consider your project for approval, the applicable findings to be made:  Please refer to 126.0504 "Findings for Site Development Permit Approval" and provide draft findings inclusive of applicable supplemental findings.  Not all the reviews have completed their comments to make a final determination if there would be deviations related to a CIP 2 or 5 at this time. However, it appears highly likely there would be no deviations that would render a CIP 5 for the proposal. (From Cycle 2) (From Cycle 6)

For questions regarding the 'LDR-Planning Review' review, please call Christopher Tracy at (619) 446-5381. Project Nbr: 463835 / Cycle: 7



L64A-003A

Review Information

**Cycle Type:** 7 Submitted (Multi-Discipline)      **Submitted:** 08/30/2016      Deemed Complete on 08/30/2016  
**Reviewing Discipline:** LDR-Environmental      **Cycle Distributed:** 08/30/2016  
**Reviewer:** Tracy, Christopher      **Assigned:** 09/01/2016  
 (619) 446-5381      **Started:** 09/12/2016  
 CRTracy@sandiego.gov      **Review Due:** 10/03/2016  
**Hours of Review:** 7.00      **Completed:** 09/30/2016      **COMPLETED ON TIME**  
**Next Review Method:** Submitted (Multi-Discipline)      **Closed:** 10/03/2016

- . The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: First Review Issues.
- . We request a 4th complete submittal for LDR-Environmental on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 3 outstanding review issues with LDR-Environmental (4 of which are new issues).
- . Last month LDR-Environmental performed 122 reviews, 76.2% were on-time, and 40.7% were on projects at less than < 3 complete submittals.

📁 Cycle 2 - 2/16/2016

📁 NOISE

📁 ON-SITE

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	22	As identified within the 6.3, "For these reasons, on-site noise sources are not anticipated to exceed the daytime noise level limit of 50 db(A) established in the Noise Ordinance." Please identify what section of the noise ordinance that is being referenced. (From Cycle 2)

📁 Cycle 6 - 6/3/2016

📁 NOISE

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	30	PROJECT DESCRIPTION - The project was modified from .91 to .96 acres in size to accommodate a drainage structure located at the southern portion of the site.  Please update all discussion points throughout the report that reference this item and update accordingly. Please update any models based on this design change.  Please update Figures 2 through 6 to reflect this new site delineation. (From Cycle 6)
<input checked="" type="checkbox"/>	31	CONSTRUCTION NOISE - Section 5.4, With the boundary adjustment, please update the construction noise model as it relates to the new southern boundary of the site. (From Cycle 6)
<input checked="" type="checkbox"/>	32	TRAFFIC NOISE - Please address comment from Cycle 2 (From Cycle 6)
<input checked="" type="checkbox"/>	33	ON-SITE NOISE  Page 28, it appears there may be a typo, "HVAC units would "not" generate noise levels of up to 42 dba at the project site boundary." (From Cycle 6)
<input checked="" type="checkbox"/>	34	As identified within the Executive Summary, Page 2, and Section 6.3, Page 28, "For these reasons, on-site noise sources are not anticipated to exceed the daytime noise level limit of 50 db(A) established in the Noise Ordinance." Please identify what section of the noise ordinance that is being referenced. Table? (From Cycle 6)
<input checked="" type="checkbox"/>	35	Per phone conversation 5/9/16, it was determined a multi-family threshold would be applied, and the the 47 dba from the SCBA cylinder stations was incorrectly modeled. Please update accordingly.  (From Cycle 6)
<input checked="" type="checkbox"/>	36	Please also address nighttime impacts as it is a 24 hour operation. (From Cycle 6)

📁 BIOLOGY

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	39	Biological Report

Page 3 - .91 acre should be referenced as .96 acre (From Cycle 6)

For questions regarding the 'LDR-Environmental' review, please call Christopher Tracy at (619) 446-5381. Project Nbr: 463835 / Cycle: 7



L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	40	Biological Report

Page 27 - ".70 acre within MHPA" should be referenced as .85 acre (From Cycle 6)

## 📁 Cycle 7 - 9/28/2016

### 📁 BIOLOGY

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	56	Page 48 - Biological Resources Report

Please provide draft Mitigation language for all species identified. LDR-Environmental will defer to Plan-MSCP for a final determination. (New Issue)

### 📁 NATIVE GRASSLANDS

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	57	Page 12 - Section 4.0 "Implementation"

Please provide a section that provides proposed mitigation language using standard City protocol. LDR-Environmental will defer to Plan-MSCP for a final determination. (New Issue)

### 📁 OTHER REVIEW DISCIPLINES

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	54	Corrections/uncleared issues are still applicable within this review cycle with respect to LDR-Engineering, Geology, Transportation, and Plan-MSCP with that could still potentially affect the final CEQA determination. As such, EAS is not able to complete the Initial Study for your project and the environmental processing timeline will be held in abeyance. LDR-Environmental will review these issue areas within the next review cycle. (New Issue)

### 📁 CEQA

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	58	Additional information is required before an environmental review can be completed. The issues identified below and in any other discipline review comments must be addressed before an environmental determination can be made on this project. A determination of Negative Declaration (ND), Mitigated Negative Declaration (MND) or Environmental Impact Report (EIR) will be made based on the information provided in any subsequent submittals. (New Issue)



L64A-003A

## Review Information

**Cycle Type:** 7 Submitted (Multi-Discipline)      **Submitted:** 08/30/2016      Deemed Complete on 08/30/2016  
**Reviewing Discipline:** LDR-Engineering Review      **Cycle Distributed:** 08/30/2016  
**Reviewer:** Canning, Jack      **Assigned:** 08/30/2016  
 (619) 446-5425      **Started:** 09/12/2016  
 jcanning@sandiego.gov      **Review Due:** 09/21/2016  
**Hours of Review:** 5.00      **Completed:** 09/19/2016      **COMPLETED ON TIME**  
**Next Review Method:** Submitted (Multi-Discipline)      **Closed:** 10/03/2016

- . The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- . We request a 4th complete submittal for LDR-Engineering Review on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 14 outstanding review issues with LDR-Engineering Review (12 of which are new issues).
- . Last month LDR-Engineering Review performed 121 reviews, 83.5% were on-time, and 38.5% were on projects at less than < 3 complete submittals.

## Engineering 2nd Review

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	31	Revise the Grading Plan Sheet C1.2. Revise the details for the proposed Biofiltration BMPs. Callout an impermeable liner or uncompacted native soils at the bottom of the facility and the overflow structure system per BMP Design Fact Sheet BF-1 Biofiltration.

(From Cycle 6)

## Drainage Study

Cleared?	Issue Num	Issue Text
<input type="checkbox"/>	30	Engineering Review has no further comments regarding the Drainage Study at this time.

(From Cycle 6)

## SWQMP

Cleared?	Issue Num	Issue Text
<input type="checkbox"/>	32	Revise Hydromodification Management Requirements Form I-3B Page 9. Section states the runoff is pumped to C Street and discharges into the San Diego Bay which is not correct. Project is not on C Street and does not discharge into the San Diego Bay. Revise accordingly.

(From Cycle 6)

33 Submit a BF-1 Biofiltration BMP Design Fact Sheet in accordance with Appendix E.

(From Cycle 6)

34 Submit a completed Biofiltration Criteria Checklist in accordance with Appendix F.

(From Cycle 6)

35 Submit a completed Simple Sizing Method for Biofiltration BMPs Worksheet B.5-1 for each DMA and Biofiltration Basin proposed. Add a discussion how the Biofiltration BMPs have been designed to have an appropriate hydraulic loading rate to maximize storm water retention and pollutant removal, as well as to prevent erosion, scour, and channeling within the BMP. Add a discussion the BMPs were sized to treat 1.5 times the DCV not reliably retained onsite.

(From Cycle 6)

36 Revise the BMP Exhibit to show and call out the DMAs proposed including tributary area for BMP sizing.

(From Cycle 6)

37 Add a discussion for each Bioretention Area and include the draw down time. Add a discussion that the draw down criteria has been satisfied which is draw down from overflow orifice elevation provided within 96 hours and exceeds 24 hours for water quality volume. Submit Draw Down calculations.

(From Cycle 6)

For questions regarding the 'LDR-Engineering Review' review, please call Jack Canning at (619) 446-5425. Project Nbr: 463835 / Cycle: 7



L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	38	Revise the details for the proposed Biofiltration BMPs. Callout an impermeable liner or uncompacted native soils at the bottom of the facility and the overflow structure system per BMP Design Fact Sheet BF-1 Biofiltration.  (From Cycle 6)
<input checked="" type="checkbox"/>	39	Engineering Review has no further comments at this time regarding the review and support of the Categorization of Infiltration Feasibility Condition Form I-8 pending Development Services Department Geology Review Section review and support of the Categorization of Infiltration Feasibility Condition Form I-8.  (From Cycle 6)
<input checked="" type="checkbox"/>	40	Revise the Pollutant Control BMP Design Worksheets / Calculations. Submit a completed BF-1 Biofiltration BMP Design Fact Sheet in accordance with Appendix E.  (From Cycle 6)
<input checked="" type="checkbox"/>	41	Submit a completed Biofiltration Criteria Checklist in accordance with Appendix F.  (From Cycle 6)
<input type="checkbox"/>	47	Project has been designed as a No Infiltration Condition. Only if Geology determines the project is a No Infiltration Condition will the treatment control BMPs with impermeable liners be acceptable. Otherwise the BMP will have to be redesigned to the BMP Fact Sheets of the identified Infiltration Condition.  (New Issue)
<input type="checkbox"/>	48	Project has been designed as a No Infiltration Condition, where the flow control for hydromodification management standard is the controlling design factor. This will require a determination of No Infiltration Condition by Development Services Geology Review.  (New Issue)
<input type="checkbox"/>	49	If Geology determines the project is a Full Infiltration Condition, where the retention for pollutant control performance standard is the controlling design factor, the project will have to be redesigned accordingly. (continued below) (New Issue)
<input type="checkbox"/>	50	If Geology determines the project is a Partial Infiltration Condition, where retention for pollutant control performance standard is the controlling design factor, project will have to be redesigned with maximum retention as feasible. The design will require an additional runoff storage area with outflow control for runoff to be discharged from the facility as needed to meet the flow control performance standards. Then design pollutant control needs for the portion of the storm water pollutant control DCV that could not be retained onsite.  (New Issue)
<input type="checkbox"/>	51	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.1. Worksheet line 11 states surface ponding depth is 33 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (New Issue)
<input type="checkbox"/>	52	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.2. Worksheet line 11 states surface ponding depth is 24 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (New Issue)
<input type="checkbox"/>	53	Revise Worksheet B.5-1 Simple Sizing Method for Biofiltration BMPs BFB No.3. Worksheet line 11 states surface ponding depth is 33 inches, which is not acceptable. Maximum ponding depth is 12 inches. Revise the worksheet and details accordingly.  (New Issue)

**Engineering 3rd Review**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	42	Project has been designed as a No Infiltration Condition. Only if Geology determines the project is a No Infiltration Condition will the treatment control BMPs with impermeable liners be acceptable. Otherwise the BMP will have to be redesigned to the BMP Fact Sheets of the identified Infiltration Condition.  (New Issue)
<input type="checkbox"/>	43	Project has been designed as a No Infiltration Condition, where the flow control for hydromodification management standard is the controlling design factor. This will require a determination of No Infiltration Condition by Development Services Geology Review.  (New Issue)

For questions regarding the 'LDR-Engineering Review' review, please call Jack Canning at (619) 446-5425. Project Nbr: 463835 / Cycle: 7



L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	44	If Geology determines the project is a Full Infiltration Condition, where the retention for pollutant control performance standard is the controlling design factor, the project will have to be redesigned accordingly. (continued below) (New Issue)
<input type="checkbox"/>	45	If Geology determines the project is a Partial Infiltration Condition, where retention for pollutant control performance standard is the controlling design factor, project will have to be redesigned with maximum retention as feasible. The design will require an additional runoff storage area with outflow control for runoff to be discharged from the facility as needed to meet the flow control performance standards. Then design pollutant control needs for the portion of the storm water pollutant control DCV that could not be retained onsite.  (New Issue)
<input type="checkbox"/>	46	Revise Grading Plan Sheet C1.2 Biofiltration Basin Detail. Detail shows and calls out surface ponding depth is 2 ft to 2.75 feet, which is not acceptable. Per BF-1 Biofiltration Fact Sheet Figure E-13-E.13-1 maximum ponding depth is 12 inches. Revise the detail and design accordingly.  (New Issue)



L64A-003A

Review Information

**Cycle Type:** 7 Submitted (Multi-Discipline)      **Submitted:** 08/30/2016      Deemed Complete on 08/30/2016  
**Reviewing Discipline:** Plan-MSCP      **Cycle Distributed:** 08/30/2016  
**Reviewer:** Smit-Kicklighter, Holly      **Assigned:** 09/12/2016  
 (619) 236-6621      **Started:** 09/30/2016  
 hsmiit@sandiego.gov      **Review Due:** 09/28/2016  
**Hours of Review:** 5.00      **Completed:** 09/30/2016      **COMPLETED LATE**  
**Next Review Method:** Plan-MSCP (Appmt.)      **Closed:** 10/03/2016

- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- . We request a 4th complete submittal for Plan-MSCP on this project as: Plan-MSCP (Appmt.).
- . The reviewer has requested more documents be submitted.
- . Your project still has 1 outstanding review issues with Plan-MSCP (1 of which are new issues).
- . Last month Plan-MSCP performed 22 reviews, 86.4% were on-time, and 41.2% were on projects at less than < 3 complete submittals.

MSCP2ndRevJune2016

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	12	Correct name of applicant on all RECON report title sheets - i.e. Noise Report says Siavesh Haghkah and BTR says Slavesh Haghkah. The correct spelling is Siavash Haghkhah. (From Cycle 6)
<input checked="" type="checkbox"/>	26	According to SanGIS-SANDAG, most of the site is considered "Conserved Lands. In addition, per Reso #287317 and Environmental Document #35-0386, 34 acres of the site was set aside for mitigation for the Eastgate Technology Park. Provide a outline of the recorded conservation area on the site plans existing conditions sheet and provide 1:1 mitigation for the impacts to a mitigation site in addition to the ratios already required for the proposed project impacts per the City's Biology Guidelines. MSCP will PDF a copy of Exhibit B to RECON. (From Cycle 6)

SITE PLANS

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	11	LANDSCAPE PLAN - Sheet L1,1- Given the sensitive nature of the site with vernal pools and native grasslands, please use only locally endemic species in the landscape plant for species at the edge of the development as these non-endemic species could easily invade/naturalize into the MHPA (i.e. change out Eriogonum cinereum to E californica; specify a native Artemisia species, CON'T (From Cycle 6)
<input checked="" type="checkbox"/>	13	use native sedges and juncus in the bio retention planting and groundcover areas (i.e. switch out Juncus patens which is rare and found in Cuyamaca area to J. acutus); switch out Carex divula and panse to C. spissa or other Carex locally endemic species - see James Lightner SD County Native Plants. (From Cycle 6)
<input checked="" type="checkbox"/>	14	LANDSCAPE PLAN - SHEET L-1 - Please show the treatment of the stormdrain installation leading to the west edge and an existing parking lot pipe, i.e. show how this area within the MHPA will be revegetated with native species.  SHEET C1.2- Label BFB and vignette as feature 19 per legend, Add/show dissipation feature type per SHEET L-1 (rip rap?) for overflow. (From Cycle 6)
<input checked="" type="checkbox"/>	15	BRUSH MANAGEMENT PLAN - Explain the need for non-standard 136 foot BM Zone. Why is BMZ1 at 79 feet and BMZ2 at 57 feet when the standard BMZ1 & 2 is 35 and 65 feet respectively. Provide Fire reviewer approval. (From Cycle 6)

BTR RECON April 2016

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	16	MSCP has reviewed the RECON BTR (April 2016) for the N. University Fire Stn and has the following comments: (From Cycle 6)
<input checked="" type="checkbox"/>	17	GENERAL COMMENT - VERNAL POOLS -Although outside the study area, the existing Nobel Drive vernal pool complex on the parcel should be disclosed along with information regarding location and distance of the complex from the proposed project area (including BMZ2). (From Cycle 6)
<input checked="" type="checkbox"/>	18	GENERAL COMMENT -SOILS - A permit under Bulletin 511 has been issued, provide a soil map in the BTR with any refinements from the study to back up info provided in Section 4.1. (From Cycle 6)
<input checked="" type="checkbox"/>	19	GENERAL COMMENT - NOISE - Section 6.4.3 - Noise - Discuss the Municipal Code exemption for emergency vehicle sirens that was provided in the Applicants Response. Explain if existing land features, and proposed elements of the project would protect wildlife utilization of the MHPA for noise elements that are not exempt if they exceed 60 dB.  (From Cycle 6)

For questions regarding the 'Plan-MSCP' review, please call Holly Smit-Kicklighter at (619) 236-6621. Project Nbr: 463835 / Cycle: 7



L64A-003A

Issue		
Cleared?	Num	Issue Text
<input checked="" type="checkbox"/>	22	Section 3.5 states that no jurisdictional wetland survey was done and Section 4.2.4 further describes a depression that was observed in Nov. 2015. Discuss in Section 3.1 any limitations in detecting vernal pools that may have occurred with the surveys that were done (i.e. was Nov 2015 the first rain of the season and/or after a prolonged drought and observed too soon to detect sprouting plants?). (From Cycle 6)
<input checked="" type="checkbox"/>	23	Section 5.4 - Sensitive Plants - Spreading Navarretia - cite the source for the critical habitat info here and in the references (i.e. USFWS 19??). (From Cycle 6)
<input checked="" type="checkbox"/>	24	Section 6.4.3 - Invasive Plants - this section lists only 18 of 47 non-native plants found on-site - please amend the list to include the other invasive/ornamental plants that are or have the potential to invade MHPA/native habitat on the parcel or negatively impact the success of the proposed native grassland restoration area. (From Cycle 6)
<input checked="" type="checkbox"/>	27	Please see issue 26 above and adjust the BTR accordingly. Also note, per the City's Biology Guidelines, the restoration of NNGL to Native Grassland does not require mitigation for the underlying NNGL. (From Cycle 6)
<input checked="" type="checkbox"/>	28	Figure 6 - Delineate the final extent of Brush Management Zone 2 area in relation to the Native Grassland Restoration area. (From Cycle 6)

**RESTORATION PLAN**

Issue		
Cleared?	Num	Issue Text
<input checked="" type="checkbox"/>	25	Change all references of revegetation to restoration as this is a 5 year plan for mitigation credit rather than a 24-month plan to meet landscaping code requirements (that the term revegetation typically refers to). (From Cycle 6)
<input checked="" type="checkbox"/>	29	Section 4.1.1 & 4.1.3- Explain more clearly the area to be staked as there is a creation area and a restoration area with an irregularly shaped native grassland area sandwiched in between that must be protected during construction. Ensure that staging and access for grubbing areas are defined up front and that staking and flagging will not crack the clay layer & alter the water table or cause other damage to the native grassland. In addition, the southern border is likely already fenced to protect the adjacent gated community and perhaps only signage and fence repair is needed. (From Cycle 6)
<input checked="" type="checkbox"/>	30	Section 4.1.3 - Translocate any existing cryptogamic crusts/ashy spike moss to areas to be preserved if available. (From Cycle 6)
<input checked="" type="checkbox"/>	31	Section 4.3 - Plant palette - ensure that all species to be introduced are found within the native areas on the site. Therefore augment the species list to include all valley needle grass annual and shrub species that are currently found on-site. (From Cycle 6)
<input checked="" type="checkbox"/>	32	Section 4.3 - Currently nearby to the site is critical habitat for Navarretia fossalis and sensitive species discussion in the BTR states that two other Navarretia are found in similar habitat but not on the site (N. intertexta and N. prostrata) so introducing a new species including N. hamata should not occur. Use N. fossalis is available from translocation or a local source. (From Cycle 6)
<input checked="" type="checkbox"/>	33	Section 6.2.1 - The anticipated exotic species list should include all 47 species of non-natives (including ornamentals) listed in the BTR as being on-site. See comment 24 also. (From Cycle 6)

**MSCP 3rd Rev Sept 2016**

Issue		
Cleared?	Num	Issue Text
<input type="checkbox"/>	34	BIO REPORT (RECON AUG 2016) - Section 6.4.3- Invasive Species - State that the species listed are existing on the project site now and they and other non-native species that crop up will be removed/controlled on-site where they are within the MHPA or have the potential to invade the MHPA. (New Issue)



L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Transportation Dev	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Islas, Karen (619) 446-5206 Kislas@sandiego.gov	<b>Assigned:</b> 08/30/2016	
	<b>Started:</b> 09/28/2016	
<b>Hours of Review:</b> 4.00	<b>Review Due:</b> 09/28/2016	<b>COMPLETED ON TIME</b>
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/28/2016	
	<b>Closed:</b> 10/03/2016	

- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: Partial Response to Cmnts/Regs.
- . We request a 4th complete submittal for LDR-Transportation Dev on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 11 outstanding review issues with LDR-Transportation Dev (6 of which are new issues).
- . Last month LDR-Transportation Dev performed 66 reviews, 87.9% were on-time, and 46.8% were on projects at less than < 3 complete submittals.

### S-13021.02.06 - 1st Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	1	Project Description: Site Development Permit (CIP-2) to construct a new three story 12,347 sq. ft. fire Station within ESL containing sensitive biological resources on City owned land. The project is located within the RS-1-14 Zone, MHPA, FAA-Miramar, and Council District 1.  (From Cycle 2)
<input type="checkbox"/>	4	Show proposed signal warning system at Nobel Dr. on site plan.  (From Cycle 2)
<input checked="" type="checkbox"/>	5	Show approximate dimensions for proposed median cut on site plan.  (From Cycle 2)
<input checked="" type="checkbox"/>	9	Sight Distance: Demonstrate on site plan that there is adequate sight distance for vehicles exiting the proposed Nobel Drive driveway.  (From Cycle 2)
<input checked="" type="checkbox"/>	12	Additional Comments (information only, no action required): Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles.  (From Cycle 2)

### S-13021.02.06 - 2nd Review

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	13	Traffic Analysis: Comments on the traffic analysis memo dated 04/20/16 were sent to the DPM, EAS, and the applicant's traffic engineer on 06/03/16.  Major issues include: - Add explanation for how 20% peak AM/PM was determined. (From Cycle 6)
<input type="checkbox"/>	14	In response to Issue #4 proposed warning signal, it is mentioned in the Traffic Memo dated 04/20/2016 - the installation of a new traffic signal is recommended on Nobel Drive to stop eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. Please show on Site Plan Sheet A1.0, the new proposed traffic signal. (From Cycle 6)
<input checked="" type="checkbox"/>	15	In response to Issue #9, please show available sight distance for a vehicle exiting Nobel Drive driveway. (From Cycle 6)
<input type="checkbox"/>	16	Median-cut/Driveway:  In accordance with LDC Table 142-05M, the maximum width for one way circulation outside of the parking impact overlay zone is 20 feet. Please revise plan to reflect regulation and demonstrate why median break is not narrower. (From Cycle 6)
<input checked="" type="checkbox"/>	17	The driveway on Nobel Drive will be one way vehicle circulation; how will drivers access the parking spaces #14 and #15? Please explain. (From Cycle 6)

For questions regarding the 'LDR-Transportation Dev' review, please call Karen Islas at (619) 446-5206. Project Nbr: 463835 / Cycle: 7



L64A-003A

**Cleared? Issue Num Issue Text**

18 Additional Comments (information only, no action required):

Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles. (From Cycle 6)

**S-13021.02.06 - 3rd Review**

**Cleared? Issue Num Issue Text**

22 Traffic Analysis Memo dated 06/14/16:

Please provide additional information on why the trip generation for the incidents assumes that 2 of the 11 average daily calls would occur in AM/PM peak hours? (New Issue)

21 In response to Issue #4 & #14, proposed warning signal, it is mentioned in the Traffic Memo dated 04/20/2016 - the installation of a new traffic signal is recommended on Nobel Drive to stop eastbound and westbound traffic at the exit driveway to allow emergency vehicles left and right turns onto Nobel Drive. Please show on Site Plan Sheet A1.0, the new proposed traffic signal. (New Issue)

23 Median-cut:

Based on Attachment 12 of Traffic Analysis Memo dated 06/14/16 & Sheet A1.10, the fire truck would be perpendicular to the roadway and it will not be sweeping; therefore, the additional break in the median does not seem necessary. Please revise site plan. (New Issue)

19 Parking:

Please add note on site plan: "parking spaces east of apparatus bay should be signed as Employee Only since they cannot be accessed by the public" (New Issue)

24 Additional Comments (information only, no action required):

Pending a redesign and/or comments from other reviewing disciplines, LDR-Transportation staff reserves the right to provide additional comments on subsequent review cycles. (New Issue)

**Draft Permit Conditions**

**Cleared? Issue Num Issue Text**

20 Parking spaces east of apparatus bay should be signed as Employee Only since they cannot be accessed by the public. (New Issue)



L64A-003A

Review Information

**Cycle Type:** 7 Submitted (Multi-Discipline)      **Submitted:** 08/30/2016      Deemed Complete on 08/30/2016  
**Reviewing Discipline:** Plan-Long Range Planning      **Cycle Distributed:** 08/30/2016  
**Reviewer:** Monroe, Dan      **Assigned:** 08/30/2016  
 (619) 236-5529      **Started:** 09/27/2016  
 DMMonroe@SanDiego.gov      **Review Due:** 09/28/2016  
**Hours of Review:** 2.00      **Completed:** 09/27/2016      **COMPLETED ON TIME**  
**Next Review Method:** Submitted (Multi-Discipline)      **Closed:** 10/03/2016

- . We request a 4th complete submittal for Plan-Long Range Planning on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Last month Plan-Long Range Planning performed 24 reviews, 79.2% were on-time, and 45.5% were on projects at less than < 3 complete submittals.

LRP 1st Review

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	4	The Public Facilities Element of the UCP was amended in December 2006 to add language citing the need for additional public safety related facilities (police, fire, and emergency medical response) to assure levels of service standards are attained for existing development and as development occurs. Please provide evidence that the proposed station location would help meet the coverage needs to meet fire department standards. (i.e. coverage maps before and after for the proposed station location) (From Cycle 2)
<input checked="" type="checkbox"/>	5	The UCP Public Facilities Element also states the new public safety related facilities should have good vehicular access and be carefully reviewed for environmental, land use and aesthetic impacts. (From Cycle 2)
<input checked="" type="checkbox"/>	6	The proposed fire station is adjacent to a multi-family residential development to the south along Shoreline drive. Noise from sirens of exiting fire apparatus and emergency call broadcasts in the fire house may be a concern for residents. There appears to be a substantial distance between the fire station and actual residential units. Please provide the distance to the nearest residential units along Shoreline Drive as well as the northwest corner of Shoreline Dr and Nobel Dr. Please also provide the siren protocol for the fire apparatus leaving the station and CNEL for sirens. (From Cycle 2)

LRP 2nd Review

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	9	In order to make a determination that the proposed station would not adversely affect the UCP, additional information is still required. (From Cycle 6)
<input checked="" type="checkbox"/>	10	LRP has reviewed the Citygate Report as noted in response to issue 4. However, Citygate identifies the need for an additional station in North University City but does not identify a general location. As requested in Issue 4, please provide coverage maps (existing & proposed) which demonstrate that the site's location will meet the report's recommendation for an additional site in North University City to meet response standards. (From Cycle 6)
<input checked="" type="checkbox"/>	11	The General Plan Noise Element's main goal is to consider existing and future noise levels when making land use planning decisions to minimize people's exposure to excessive noise. To achieve this goal, the element includes Table NE-2, Noise and Land Use Compatibility Guidelines which identifies compatible, conditionally compatible and incompatible land use with exterior noise exposure (dBA CNEL). Multi-Family development is considered conditionally compatible up to 70 dB CNEL with interior noise levels of up to 45 dB. (From Cycle 6)
<input checked="" type="checkbox"/>	12	cont'd: Multi-Family land use is adjacent to the project site. The noise diagram provided in response to Issue 6 identifies the distance to the nearest residences from the station. However, as stated in a letter from Recon dated May 2, 2016, addressed to Mr. Scott Maas, single event emergency responses may exceed 104 dB at nearby residences and interior levels up to 79 dB. (From Cycle 6)
<input checked="" type="checkbox"/>	13	Please provide LRP with a copy of the Noise Study requested by LDR-Environmental. The Noise Study should include the applicable analysis identified in the General Plan Noise Element Table NE-4. Please be sure the study includes the CNEL contours based on emergency response to help determine compatibility for surrounding residential use. (From Cycle 6)

LRP 3rd Review

Cleared?	Issue Num	Issue Text
<input checked="" type="checkbox"/>	14	Re: Issue 10, LRP received a Memo from Kevin Ester, Assistant Fire Chief, Fire-Resuce Department dated September 21, 2016. The memo states, "This memo is in response to the cycle review issue #10, dated 6/13/16, for Fire Station 50 (North University City). Based upon our review of the 2011 Citygate Standards of Response Coverage Deployment Study the selected site for the new fire station meets the needs of the community and Fire Department. Furthermore, the location will help meet the Fire Department's response time standards in the North University City area." (New Issue)

For questions regarding the 'Plan-Long Range Planning' review, please call Dan Monroe at (619) 236-5529. Project Nbr: 463835 / Cycle: 7



L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	15	LRP has received and reviewed the Noise Analysis for the North UC Fire Station 50 Project dated August 12, 2016. The analysis includes an evaluation of General Plan Land Use Compatibility Noise Standards which concludes that the location and operation of Station 50 would not be inconsistent with surrounding land use. Additionally, Section 59.5.0402 of the City's Noise Ordinance exempts "emergency vehicles when being used in emergency situations including the blowing of sirens and/or horns" from all noise standards. (New Issue)
<input checked="" type="checkbox"/>	16	LRP has no further issues. (New Issue)



L64A-003A

Review Information

**Cycle Type:** 7 Submitted (Multi-Discipline)      **Submitted:** 08/30/2016      Deemed Complete on 08/30/2016  
**Reviewing Discipline:** LDR-Landscaping      **Cycle Distributed:** 08/30/2016  
**Reviewer:** Radcliffe-Meyers, Lori      **Assigned:** 09/29/2016  
(619) 446-5129      **Started:** 09/29/2016  
Lradcliffeme@sandiego.gov      **Review Due:** 09/28/2016  
**Hours of Review:** 0.00      **Completed:** 09/29/2016      **COMPLETED LATE**  
**Next Review Method:** Submitted (Multi-Discipline)      **Closed:** 10/03/2016

- . We request a 4th complete submittal for LDR-Landscaping on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 9 outstanding review issues with LDR-Landscaping (None of which are new)
- . Last month LDR-Landscaping performed 77 reviews, 88.3% were on-time, and 37.5% were on projects at less than < 3 complete submittals.

2nd Review Cycle 6 06/01/16

Cleared?	Issue Num	Issue Text
<input type="checkbox"/>	10	Previous issues have been addressed and cleared. LDR-Landscape Review has no further issues with the project.  (From Cycle 6)

Permit Conditions

Cleared?	Issue Num	Issue Text
<input type="checkbox"/>	11	Prior to issuance of any engineering permits for grading, the Owner/Permittee shall submit complete construction documents for the revegetation and hydroseeding of all disturbed land in accordance with the Landscape Standards and to the satisfaction of the Development Services Department. All plans shall be in substantial conformance to this permit (including Environmental conditions) and Exhibit 'A,' on file in the Office of the Development Services Department.  (From Cycle 6)
<input type="checkbox"/>	12	Prior to issuance of any construction permits for grading, the Owner/Permittee shall submit complete Landscape Construction Documents showing the brush management zones on the property in substantial conformance with Exhibit 'A' in accordance with the Landscape Standards and to the satisfaction of the Development Services Department.  (From Cycle 6)
<input type="checkbox"/>	13	Prior to issuance of any engineering permits for right-of-way improvements, the Owner/Permittee shall submit complete landscape construction documents for right-of-way improvements to the Development Services Department for approval. Improvement plans shall show, label, and dimension a 40 sq-ft area around each tree which is unencumbered by utilities. Driveways, utilities, drains, water and sewer laterals shall be designed so as not to prohibit the placement of street trees.  (From Cycle 6)
<input type="checkbox"/>	14	In the event that a foundation only permit is requested, the Owner/Permittee shall submit a site plan or staking layout plan identifying all landscape areas consistent with Exhibit 'A,' Landscape Development Plan, on file in the Office of the Development Services Department. These landscape areas shall be clearly identified with a distinct symbol, noted with dimensions and labeled as 'landscaping area.'  (From Cycle 6)
<input type="checkbox"/>	15	Prior to issuance of any construction permits for structures, the Owner/Permittee shall submit complete landscape and irrigation construction documents consistent with the Landscape Standards to the Development Services Department for approval. The construction documents shall be in substantial conformance with Exhibit 'A,' Landscape Development Plan, on file in the Development Services Department. Construction plans shall show, label, and dimension a 40 sq-ft area around each tree which is unencumbered by hardscape and utilities as set forth under LDC 142.0403(b)(5).  (From Cycle 6)

For questions regarding the 'LDR-Landscaping' review, please call Lori Radcliffe-Meyers at (619) 446-5129. Project Nbr: 463835 / Cycle: 7



L64A-003A

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input type="checkbox"/>	16	Prior to issuance of any construction permits for structures, the Owner/Permittee shall submit a water budget in accordance with the Water Conservation Requirements per SDMC 142.0413, Table 142-041, to be included with the construction documents. An irrigation audit shall be submitted consistent with Section 2.7 of the Landscape Standards of the Land Development Manual at final inspection. The irrigation audit shall certify that all irrigation systems have been installed and operate as approved by the Development Services Department.  (From Cycle 6)
<input type="checkbox"/>	17	The Owner/Permittee shall be responsible for the maintenance of all landscape improvements shown on the approved plans, including in the right-of-way, consistent with the Landscape Standards unless long-term maintenance of said landscaping will be the responsibility of a Landscape Maintenance District or other approved entity. All required landscape shall be maintained in a disease, weed and litter free condition at all times. Severe pruning or "topping" of trees is not permitted unless specifically noted in this Permit.  (From Cycle 6)
<input type="checkbox"/>	18	If any required landscape (including existing or new plantings, hardscape, landscape features, etc.) indicated on the approved construction document plans is damaged or removed during demolition or construction, the Owner/Permittee shall repair and/or replace it in kind and equivalent size per the approved documents to the satisfaction of the Development Services Department within 30 days of damage.  (From Cycle 6)



L64A-003A

**Review Information**

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> LDR-Geology	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Mills, Kreg (619) 446-5295 Kmills@sandiego.gov	<b>Assigned:</b> 08/31/2016	
	<b>Started:</b> 09/27/2016	
<b>Hours of Review:</b> 2.50	<b>Review Due:</b> 09/28/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/29/2016	<b>COMPLETED LATE</b>
	<b>Closed:</b> 10/03/2016	

- . The reviewer has indicated they want to review this project again. Reason chosen by the reviewer: New Document Required.
- . We request a 4th complete submittal for LDR-Geology on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Your project still has 5 outstanding review issues with LDR-Geology (3 of which are new issues).
- . Last month LDR-Geology performed 111 reviews, 85.6% were on-time, and 56.2% were on projects at less than < 3 complete submittals.

**463835-2 (2/3/20126)**

**REFERENCES:**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	1	Geologic Reconnaissance, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated May 29, 2015 (their project no. 107954001)  City of San Diego Memorandum, Subject: Site Development Permit application for Fire Station #50, WBS#S-13021.02.06, prepared by Siavash Haghkhal, Project Manager, AEP Design Division, Public Works Department, dated January 5, 2016  Development Plans, Fire Station 50, prepared by Safdie Rabines Architects, undated  (From Cycle 2)

**COMMENTS:**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	2	The project's geotechnical consultant must submit an addendum geotechnical report or update letter that specifically addresses the referenced development plans and the following:  (From Cycle 2)
<input checked="" type="checkbox"/>	3	The addendum must contain a site-specific geologic/geotechnical map that shows the distribution of fill and geologic units, and proposed grading. Circumscribe the limits of recommended remedial grading to delineate the proposed footprint of the project and show anticipated target removal elevations on the geologic/geotechnical map. The preliminary grading plan could provide a suitable base map.  (From Cycle 2)
<input checked="" type="checkbox"/>	4	The project's geotechnical consultant should provide representative geologic/geotechnical cross sections that show the existing and proposed grades, distribution of fill and geologic units, and groundwater conditions. Show the anticipated area of recommended remedial grading, including temporary slopes.  (From Cycle 2)
<input type="checkbox"/>	5	The project's geotechnical consultant must indicate if the site is suitable for the proposed development as designed or provide recommendations to mitigate the geologic hazards to an acceptable level.  (From Cycle 2)
<input type="checkbox"/>	6	According to the San Diego Seismic Safety Study Geologic Hazard Maps, the site is located in geologic hazard category 54, indicating potential slope instability. The project's geotechnical consultant must provide a professional opinion that the site will have a factor-of-safety of 1.5 or greater for both gross and surficial stability following project completion.  (From Cycle 2)

**463835-6 (6/3/2016)**

**COMMENTS:**

<u>Cleared?</u>	<u>Issue Num</u>	<u>Issue Text</u>
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For questions regarding the 'LDR-Geology' review, please call Kreg Mills at (619) 446-5295. Project Nbr: 463835 / Cycle: 7



L64A-003A

Issue		
Cleared?	Num	Issue Text
<input type="checkbox"/>	11	The previous review comments that have not been cleared remain applicable.  (From Cycle 6)
<input checked="" type="checkbox"/>	12	Storm Water Requirements for the proposed conceptual development will be evaluated by LDR-Engineering review. Priority Development Projects (PDPs) may require an investigation of storm water infiltration feasibility in accordance with the Storm Water Standards (including Appendix C and D). Check with your LDR-Engineering reviewer for requirements. LDR-Engineering may determine that LDR-Geology review of a storm water infiltration evaluation is required.  (From Cycle 6)

463835-7 (9/29/2016)

REFERENCES:

Issue		
Cleared?	Num	Issue Text
<input checked="" type="checkbox"/>	13	Geologic Reconnaissance, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated May 29, 2015 (their project no. 107954001)  Geotechnical Evaluation, Proposed Fire Station no. 50, Nobel Drive and Shoreline Drive, San Diego, California, prepared by Ninyo & Moore, dated August 18, 2016  Development Plans, Fire Station 50, prepared by Safdie Rabines Architects, undated  (New Issue)

COMMENTS:

Issue		
Cleared?	Num	Issue Text
<input type="checkbox"/>	14	The previous review comments that have not been cleared remain applicable.  (New Issue)
<input type="checkbox"/>	15	This proposed development is a Priority Development Project (PDP). The project's geotechnical consultant must submit an addendum geotechnical report that provides the information required in the Storm Water Standards, Part 1, BMP Design Manual ( <a href="https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf">https://www.sandiego.gov/sites/default/files/storm-water-standards-manual-2016-1.pdf</a> ) and Appendix F of the City's Guidelines for Geotechnical Reports.  (New Issue)



THE CITY OF SAN DIEGO  
Development Services Department  
1222 First Avenue, San Diego, CA 92101-4154

L64A-003A

## Review Information

<b>Cycle Type:</b> 7 Submitted (Multi-Discipline)	<b>Submitted:</b> 08/30/2016	Deemed Complete on 08/30/2016
<b>Reviewing Discipline:</b> Airport Authority	<b>Cycle Distributed:</b> 08/30/2016	
<b>Reviewer:</b> Deisher, Helene (619) 446-5223 hmdeisher@sandiego.gov	<b>Assigned:</b> 09/08/2016	
	<b>Started:</b> 09/08/2016	
<b>Hours of Review:</b> 1.00	<b>Review Due:</b> 09/21/2016	
<b>Next Review Method:</b> Submitted (Multi-Discipline)	<b>Completed:</b> 09/08/2016	<b>COMPLETED ON TIME</b>
	<b>Closed:</b> 10/03/2016	

- . The review due date was changed to 10/03/2016 from 09/28/2016 per agreement with customer.
- . We request a 2nd complete submittal for Airport Authority on this project as: Submitted (Multi-Discipline).
- . The reviewer has requested more documents be submitted.
- . Last month Airport Authority performed 7 reviews, 85.7% were on-time, and 85.7% were on projects at less than < 3 complete submittals.

## New Issue Group (2589892)

<u>Cleared?</u>	<u>Num</u>	<u>Issue Text</u>
<input checked="" type="checkbox"/>	1	Per my review of the project description and location, this does not require ALUC review; it is outside all safety zones and the use (a fire station) is consistent with the noise standards.  Garret Hollam Sr. Airport Planner / GIS Coordinator Airport Planning and Noise Mitigation T 619.400.2788   F 619.400.2787 ghollam@san.org (New Issue)

**ATTACHMENT B**  
**WORKSHEET C.4-1**



## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 2 of 4			
Criteria	Screening Question	Yes	No
3	Can infiltration greater than 0.5 inches per hour be allowed without increasing risk of groundwater contamination (shallow water table, storm water pollutants or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
4	Can infiltration greater than 0.5 inches per hour be allowed without causing potential water balance issues such as change of seasonality of ephemeral streams or increased discharge of contaminated groundwater to surface waters? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability.			
Part 1 Result*	If all answers to rows 1 - 4 are "Yes" a full infiltration design is potentially feasible. The feasibility screening category is Full Infiltration		
	If any answer from row 1-4 is "No", infiltration may be possible to some extent but would not generally be feasible or desirable to achieve a "full infiltration" design. Proceed to Part 2		

\*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings.

*Not feasible*

## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 3 of 4			
Part 2 – Partial Infiltration vs. No Infiltration Feasibility Screening Criteria Would infiltration of water in any appreciable amount be physically feasible without any negative consequences that cannot be reasonably mitigated?			
Criteria	Screening Question	Yes	No
5	Do soil and geologic conditions allow for infiltration in any appreciable rate or volume? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2 and Appendix D.	X	
Provide basis:  Site-specific infiltration testing has not been performed. Based on review of soil survey maps, the onsite materials consist of NRCS Soil Group D. According to Table G.105 of the City Storm Water BMP Design Manual dated January 2016, Soil Group D has a potential infiltration rate ranging between 0 and 0.02 inches per hour.			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
6	Can Infiltration in any appreciable quantity be allowed without increasing risk of geotechnical hazards (slope stability, groundwater mounding, utilities, or other factors) that cannot be mitigated to an acceptable level? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.2.		X
Provide basis: The onsite soils are anticipated to exhibit a relatively low infiltration (i.e., potential infiltration rates ranging between 0 to 0.02 inches per hour) as discussed in Criteria 1 and 5. However, as discussed in Criteria 1 and Section 8.12 of the project Geotechnical Report prepared by Ninyo & Moore, we do not recommend infiltration due to the potential of lateral migration of water and potentially adverse effects (i.e., volumetric changes) to the soils beneath improvements and potential instabilities within the adjacent slopes. As stated in Section 8.12 of the project Geotechnical Report, we recommend that the bottom and sides of stormwater control devices be lined with an impermeable liner.			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			

## Appendix C: Geotechnical and Groundwater Investigation Requirements

Worksheet C.4-1 Page 4 of 4			
Criteria	Screening Question	Yes	No
7	Can Infiltration in any appreciable quantity be allowed without posing significant risk for groundwater related concerns (shallow water table, storm water pollutants or other factors)? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.		
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
8	Can infiltration be allowed without violating downstream water rights? The response to this Screening Question shall be based on a comprehensive evaluation of the factors presented in Appendix C.3.	X	
Provide basis:			
Summarize findings of studies; provide reference to studies, calculations, maps, data sources, etc. Provide narrative discussion of study/data source applicability and why it was not feasible to mitigate low infiltration rates.			
Part 2 Result*	If all answers from row 1-4 are yes then partial infiltration design is potentially feasible. The feasibility screening category is Partial Infiltration. If any answer from row 5-8 is no, then infiltration of any volume is considered to be infeasible within the drainage area. The feasibility screening category is No Infiltration.		

\*To be completed using gathered site information and best professional judgment considering the definition of MEP in the MS4 Permit. Additional testing and/or studies may be required by City Engineer to substantiate findings

*Not feasible  
No Infiltration*

### HAND-WRITTEN RESPONSES PROVIDED BY CE&S



City of San Diego  
 Development Services  
 1222 First Ave., MS-302  
 San Diego, CA 92101  
 (619) 446-5000

# Storm Water Requirements Applicability Checklist

FORM  
**DS-560**  
 OCTOBER 2016

Project Address: **Nobel Drive at Shoreline Drive** Project Number (for City Use Only): **463835**

## SECTION 1. Construction Storm Water BMP Requirements:

All construction sites are required to implement construction BMPs in accordance with the performance standards in the [Storm Water Standards Manual](#). Some sites are additionally required to obtain coverage under the State Construction General Permit (CGP)<sup>1</sup>, which is administered by the State Water Resources Control Board.

**For all projects complete PART A: If project is required to submit a SWPPP or WPCP, continue to PART B.**

### PART A: Determine Construction Phase Storm Water Requirements.

1. Is the project subject to California's statewide General NPDES permit for Storm Water Discharges Associated with Construction Activities, also known as the State Construction General Permit (CGP)? (Typically projects with land disturbance greater than or equal to 1 acre.)

Yes; SWPPP required, skip questions 2-4  No; next question

2. Does the project propose construction or demolition activity, including but not limited to, clearing, grading, grubbing, excavation, or any other activity resulting in ground disturbance and contact with storm water runoff?

Yes; WPCP required, skip 3-4  No; next question

3. Does the project propose routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility? (Projects such as pipeline/utility replacement)

Yes; WPCP required, skip 4  No; next question

4. Does the project only include the following Permit types listed below?

- Electrical Permit, Fire Alarm Permit, Fire Sprinkler Permit, Plumbing Permit, Sign Permit, Mechanical Permit, Spa Permit.
- Individual Right of Way Permits that exclusively include only ONE of the following activities: water service, sewer lateral, or utility service.
- Right of Way Permits with a project footprint less than 150 linear feet that exclusively include only ONE of the following activities: curb ramp, sidewalk and driveway apron replacement, pot holing, curb and gutter replacement, and retaining wall encroachments.

Yes; no document required

Check one of the boxes below, and continue to PART B:

If you checked "Yes" for question 1, **a SWPPP is REQUIRED. Continue to PART B**

If you checked "No" for question 1, and checked "Yes" for question 2 or 3, **a WPCP is REQUIRED.** If the project proposes less than 5,000 square feet of ground disturbance AND has less than a 5-foot elevation change over the entire project area, a Minor WPCP may be required instead. **Continue to PART B.**

If you checked "No" for all questions 1-3, and checked "Yes" for question 4 **PART B does not apply and no document is required. Continue to Section 2.**

1. More information on the City's construction BMP requirements as well as CGP requirements can be found at: [www.sandiego.gov/stormwater/regulations/index.shtml](http://www.sandiego.gov/stormwater/regulations/index.shtml)

**PART B: Determine Construction Site Priority**

This prioritization must be completed within this form, noted on the plans, and included in the SWPPP or WPCP. The city reserves the right to adjust the priority of projects both before and after construction. Construction projects are assigned an inspection frequency based on if the project has a "high threat to water quality." The City has aligned the local definition of "high threat to water quality" to the risk determination approach of the State Construction General Permit (CGP). The CGP determines risk level based on project specific sediment risk and receiving water risk. Additional inspection is required for projects within the Areas of Special Biological Significance (ASBS) watershed. **NOTE:** The construction priority does **NOT** change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by city staff.

**Complete PART B and continued to Section 2**

- 1.  **ASBS**  
a. Projects located in the ASBS watershed.
- 2.  **High Priority**  
a. Projects 1 acre or more determined to be Risk Level 2 or Risk Level 3 per the Construction General Permit and not located in the ASBS watershed.  
b. Projects 1 acre or more determined to be LUP Type 2 or LUP Type 3 per the Construction General Permit and not located in the ASBS watershed.
- 3.  **Medium Priority**  
a. Projects 1 acre or more but not subject to an ASBS or high priority designation.  
b. Projects determined to be Risk Level 1 or LUP Type 1 per the Construction General Permit and not located in the ASBS watershed.
- 4.  **Low Priority**  
a. Projects requiring a Water Pollution Control Plan but not subject to ASBS, high, or medium priority designation.

**SECTION 2. Permanent Storm Water BMP Requirements.**

Additional information for determining the requirements is found in the [Storm Water Standards Manual](#).

**PART C: Determine if Not Subject to Permanent Storm Water Requirements.**

Projects that are considered maintenance, or otherwise not categorized as "new development projects" or "redevelopment projects" according to the [Storm Water Standards Manual](#) are not subject to Permanent Storm Water BMPs.

**If "yes" is checked for any number in Part C, proceed to Part F and check "Not Subject to Permanent Storm Water BMP Requirements".**

**If "no" is checked for all of the numbers in Part C continue to Part D.**

- 1. Does the project only include interior remodels and/or is the project entirely within an existing enclosed structure and does not have the potential to contact storm water?  Yes  No
- 2. Does the project only include the construction of overhead or underground utilities without creating new impervious surfaces?  Yes  No
- 3. Does the project fall under routine maintenance? Examples include, but are not limited to: roof or exterior structure surface replacement, resurfacing or reconfiguring surface parking lots or existing roadways without expanding the impervious footprint, and routine replacement of damaged pavement (grinding, overlay, and pothole repair).  Yes  No

**PART D: PDP Exempt Requirements.**

**PDP Exempt projects are required to implement site design and source control BMPs.**

**If "yes" was checked for any questions in Part D, continue to Part F and check the box labeled "PDP Exempt."**

**If "no" was checked for all questions in Part D, continue to Part E.**

**1. Does the project ONLY include new or retrofit sidewalks, bicycle lanes, or trails that:**

- Are designed and constructed to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas? Or;
- Are designed and constructed to be hydraulically disconnected from paved streets and roads? Or;
- Are designed and constructed with permeable pavements or surfaces in accordance with the Green Streets guidance in the City's Storm Water Standards manual?

Yes; PDP exempt requirements apply       No; next question

**2. Does the project ONLY include retrofitting or redeveloping existing paved alleys, streets or roads designed and constructed in accordance with the Green Streets guidance in the [City's Storm Water Standards Manual](#)?**

Yes; PDP exempt requirements apply       No; project not exempt.

**PART E: Determine if Project is a Priority Development Project (PDP).**

Projects that match one of the definitions below are subject to additional requirements including preparation of a Storm Water Quality Management Plan (SWQMP).

**If "yes" is checked for any number in PART E, continue to PART F and check the box labeled "Priority Development Project".**

**If "no" is checked for every number in PART E, continue to PART F and check the box labeled "Standard Development Project".**

**1. New Development that creates 10,000 square feet or more of impervious surfaces collectively over the project site.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.

Yes     No

**2. Redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surfaces on an existing site of 10,000 square feet or more of impervious surfaces.** This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.

Yes     No

**3. New development or redevelopment of a restaurant.** Facilities that sell prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC 5812), and where the land development creates and/or replace 5,000 square feet or more of impervious surface.

Yes     No

**4. New development or redevelopment on a hillside.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site) and where the development will grade on any natural slope that is twenty-five percent or greater.

Yes     No

**5. New development or redevelopment of a parking lot that creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).**

Yes     No

**6. New development or redevelopment of streets, roads, highways, freeways, and driveways.** The project creates and/or replaces 5,000 square feet or more of impervious surface (collectively over the project site).

Yes     No

- 7. **New development or redevelopment discharging directly to an Environmentally Sensitive Area.** The project creates and/or replaces 2,500 square feet of impervious surface (collectively over project site), and discharges directly to an Environmentally Sensitive Area (ESA). "Discharging directly to" includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).  Yes  No
- 8. **New development or redevelopment projects of a retail gasoline outlet (RGO) that create and/or replaces 5,000 square feet of impervious surface.** The development project meets the following criteria: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.  Yes  No
- 9. **New development or redevelopment projects of an automotive repair shops that creates and/or replaces 5,000 square feet or more of impervious surfaces.** Development projects categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.  Yes  No
- 10. **Other Pollutant Generating Project.** The project is not covered in the categories above, results in the disturbance of one or more acres of land and is expected to generate pollutants post construction, such as fertilizers and pesticides. This does not include projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces or if they sheet flow to surrounding pervious surfaces.  Yes  No

**PART F: Select the appropriate category based on the outcomes of PART C through PART E.**

- 1. The project is **NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS.**
- 2. The project is a **STANDARD DEVELOPMENT PROJECT.** Site design and source control BMP requirements apply. See the [Storm Water Standards Manual](#) for guidance.
- 3. The project is **PDP EXEMPT.** Site design and source control BMP requirements apply. See the [Storm Water Standards Manual](#) for guidance.
- 4. The project is a **PRIORITY DEVELOPMENT PROJECT.** Site design, source control, and structural pollutant control BMP requirements apply. See the [Storm Water Standards Manual](#) for guidance on determining if project requires a hydromodification plan management

Joy D. Christensen

Assistant Engineer

Name of Owner or Agent (Please Print)

Title



03/30/2017

Signature

Date

**EXHIBIT K**  
**ARCHEOLOGICAL RESOURCES REPORT**



# Archaeological Resources Report for the North University City Fire Station 50 Project, San Diego, California

Prepared for

Mr. Jasiah Neff  
City of San Diego  
Engineering & Capital Projects  
525 B Street, Suite 750  
San Diego, CA 92101

Prepared by

RECON Environmental, Inc.  
1927 Fifth Avenue  
San Diego, CA 92101-2358  
P 619.308.9333 F 619.308.9334  
RECON Number 7617  
February 20, 2017

Carmen Zepeda-Herman  
Principal Investigator

# ARCHAEOLOGICAL RESOURCE REPORT FORM

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## I. PROJECT DESCRIPTION AND LOCATION

The City of San Diego is proposing the construction of the North University City Fire Station 50 (proposed project). The proposed project entails the construction of a new fire station and associated site improvements on a vacant City of San Diego-owned parcel (Figure 1). The project is located to the south and east of the intersection of Nobel Drive and Shoreline Drive, within the North University Community Planning Area. The property is situated on an unsectioned portion of Pueblo Lands of San Diego landgrant, Township 15 South, Range 3 West of the U.S. Geologic 7.5-minute La Jolla Quadrangle (Figure 2). The project site is bounded on the west by Shoreline Drive, on the north by Nobel Drive, and the Rose Canyon Open Space extends past the project area to the south and east. Interstate 805 is less than 0.5 mile east. The surrounding area to the west and south is a residential community. On the northeast corner of Nobel Drive and Shoreline Drive is the City of San Diego, Park and Recreation Department, Nobel Athletic Area and Library (Figures 3 and 4).

The development footprint of the project would comprise 0.92 acre with 0.94 acre being the impact area because of the small slivers of vegetation that would be impacted as a result. The area where the slivers of vegetation would be impacted could result in erosion of the area and this would be considered an indirect impact due to the possible soil disturbance. The three-story, 12,000-square-foot fire station would accommodate 10 personnel and equipment in order to provide emergency response times that meet City and national standards within the North University City area.

The fire station would include a workshop, vestibule, watch room, exterior patio, and associated components that would house up to 10 crew members. There would be 10 crew members present at all times, with a shift change typically occurring at 7 a.m. The station also includes an apparatus bay with three "slots" for storage of the fire engines and ambulances. Other on-site components include a 14-space parking lot that would have a gated entry; a storage area for a fuel tank, generator, and transformer; and a trash enclosure. Three, 75-foot-wide flow-through planters would be provided in the southern portion of the site that would treat and detain all storm water runoff on-site. Native landscaping would also be provided throughout the project site.

Construction for the project would begin with clearing and grubbing of the site, followed by grading for the fire station building pad, parking lot, and driveways. Grading operations would entail 4,300 yards of cut, with a maximum cut depth of 10 feet. Fill quantities would be 1,600 cubic yards, with a maximum fill depth of 10 feet. Approximately 2,700 cubic yards would be exported.

The project would add an entry/exit point to the cul-de-sac on east side of Shoreline Drive and an exit point on Nobel Drive. The project would also require a break in the median on Nobel Drive for emergency responses in which the fire engine/truck would need to turn left heading westbound on Nobel Drive. The traffic signal at the intersection of Nobel Drive and Shoreline Drive would be retrofitted to allow for automatic pre-emption by emergency vehicles exiting the station.

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## II. SETTING

### Natural Environment (Past and Present)

The project site is located within approximately 70 acres of open space, mostly designated as Multi-Habitat Planning Area (MHPA), which has connectivity to Rose Canyon Open Space Park. The project has been designed to be located in the northwesterly corner of the parcel, immediately adjacent to Nobel Drive and Shoreline Drive. This portion is relatively flat, with the

southern portion of the site gently sloping towards Rose Canyon, with a range of elevation between 320 feet above means sea level (AMSL) at Nobel Drive to 280 feet AMSL along the southern boundary. This portion has also been subject to disturbance, as the site contains soil that was excavated from another area, possibly during excavation activities associated with the creation of Nobel Drive. Vegetation include ornamental plants on the western edge; disturbed lands, native grasses, and non-native grasses within the central portion; and Diegan coastal sage scrub adjacent to the eastern boundary.

The predominant soil on the project area is the Huerheuro loam, 15 to 30 percent slopes. This soil consists of moderately well drained loams with a clay subsoil. They are derived from sandy marine sediments (U.S. Department. of Agriculture 1973).

### **Ethnography/History**

The prehistoric cultural sequence in San Diego County is generally conceived as comprising three basic periods: the Paleoindian, dated between about 11,500 and 8,500 years ago, and manifested by the artifacts of the San Dieguito Complex; the Archaic, lasting from about 8,500 to 1,500 years ago (A.D. 500), and manifested by the cobble and core technology of the La Jollan Complex; and the Late Prehistoric, lasting from about 1,500 years ago to historic contact (i.e., A.D. 500 to 1769) and represented by the Cuyamaca Complex. This latest complex is marked by the appearance of ceramics, small arrow points, and cremation burial practices.

The Paleoindian Period in San Diego County is most closely associated with the San Dieguito Complex, as identified by Rogers (1938, 1939, and 1945). The San Dieguito assemblage consists of well-made scraper planes, choppers, scraping tools, crescentics, elongated bifacial knives, and leaf-shaped points. The San Dieguito Complex is thought to represent an early emphasis on hunting (Warren et al. 1993: III-33).

The Archaic Period brings an apparent shift toward a more generalized economy and an increased emphasis on seed resources, small game, and shellfish. The local cultural manifestations of the Archaic Period are called the La Jollan Complex along the coast and the Pauma Complex inland. Pauma Complex sites lack the shell that dominates many La Jollan sites. Along with an economic focus on gathering plant resources, the settlement system appears to have been more sedentary. The La Jollan assemblage is dominated by rough cobble-based choppers and scrapers, and slab and basin metates. Large side-notched and Elko series projectile points appeared. Large deposits of marine shell at coastal sites argue for the importance of shellfish gathering to the coastal Archaic economy.

Near the coast and in the Peninsular Mountains, beginning approximately 1,500 years ago, patterns began to emerge which suggest the ethnohistoric Kumeyaay. This period is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversify and intensify during this period, with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, but effective technological innovations. The late prehistoric archaeology of the San Diego coast and foothills is characterized by the Cuyamaca Complex. It is primarily known from the work of D. L. True at Cuyamaca Rancho State Park (True 1970). The Cuyamaca Complex is characterized by the presence of steatite arrowshaft straighteners, steatite pendants, steatite comales (heating stones), Tizon Brownware pottery, ceramic figurines reminiscent of Hohokam styles, ceramic "Yuman bow pipes," ceramic rattles, miniature pottery various cobble-based tools (e.g., scrapers, choppers, hammerstones), bone awls, manos and metates, mortars and pestles, and Desert side-notched (more common) and Cottonwood Series projectile points.

### *Ethnohistory*

The Kumeyaay (also known as Kamia, Ipai, Tipai, and Diegueño) occupied the southern two-thirds of San Diego County. The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherías. This settlement system typically consisted of two or more seasonal villages with temporary camps radiating away from these central places (Cline 1984a and 1984b). Their economic system consisted of hunting and gathering, with a focus on small game, acorns, grass seeds, and other plant resources. The most basic social and economic unit was the patrilocal extended family. A wide range of tools was made of locally available and imported materials. A simple shoulder-height bow was utilized for hunting. Numerous other flaked stone tools were made including scrapers, choppers, flake-based cutting tools, and biface knives. Preferred stone types were locally available metavolcanics, cherts, and quartz. Obsidian was imported from the deserts to the north and east. Ground stone objects include mortars, manos, metates, and pestles typically made of locally available, fine-grained granite. Both portable and bedrock types are known. The Kumeyaay made fine baskets using either coiled or twined construction. The Kumeyaay also made pottery, utilizing the paddle-and-anvil technique. Most were a plain brown utility ware called Tizon Brown Ware but some were decorated (Meighan 1954; May 1976, 1978).

### *Spanish/Mexican/American Periods*

The Spanish Period (1769–1821) represents a time of European exploration and settlement. Military and naval forces, along with a religious contingent founded the San Diego Presidio, the pueblo of San Diego, and the San Diego Mission in 1769 (Rolle 1998). The mission system used forced Native American labor and introduced horses, cattle, other agricultural goods, and implements. Native American culture in the coastal strip of California rapidly deteriorated despite repeated attempts to revolt against the Spanish colonists (Cook 1976). One of the hallmarks of the Spanish colonial scheme was the rancho system. In an attempt to encourage settlement and development of the colonies, large land grants were made to meritorious or well-connected individuals.

In 1821, Mexico declared its independence from Spain. During the Mexican Period (1822–1848), the mission system was secularized by the Mexican government and these lands allowed for the dramatic expansion of the rancho system. The southern California economy became increasingly based on cattle ranching.

The Mexican Period ended when Mexico signed the Treaty of Guadalupe Hidalgo on February 2, 1848, concluding the Mexican-American War (1846–1848; Rolle 1998). Just prior to the signing of the Treaty of Guadalupe Hidalgo, gold was discovered in the northern California Sierra-Nevada foothills, the news was published on March 15, 1848 and the California Gold Rush began. The great influx of Americans and Europeans eliminated many remaining vestiges of Native American culture.

The American homestead system encouraged settlement beyond the coastal plain into areas where Native Americans had retreated to avoid the worst of Spanish and Mexican influences (Carrico 1987; Cook 1976). A rural community cultural pattern existed in San Diego County from approximately 1870 to 1930. These communities were composed of an aggregate of people who lived on scattered farmsteads tied together through a common school district, church, post office, and country store (Hector and Van Wormer 1986, Pourade 1963).

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### **III. AREA OF POTENTIAL EFFECT (APE)**

The area of potential effect (APE) is 0.94 acre.

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## **IV. STUDY METHODS**

The cultural resources survey included both an archival search and an on-site foot survey of the project site. A records search with a one-mile radius buffer around the entire parcel (which encompasses more than the APE) was requested from the South Coastal Information Center (SCIC) at San Diego State University in order to determine if previously recorded prehistoric or historic cultural resources occur on the property. Historic aerial photographs were also checked in order to see past development within and near the project site.

The field survey was conducted on September 8, 2015 by RECON archaeologist Carmen Zepeda-Herman and Nathaniel Yerka accompanied by Tuchon Phoenix, a Native American representative from Red Tail Monitoring and Research. The APE was inspected for evidence of archaeological materials such as flaked and ground stone tools or fragments, ceramics, and milling features. Transect intervals were 10 meters. General photographs of the project area were taken.

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## **V. RESULTS OF STUDY**

### *Record Search Results*

The record search indicated that there have been a number of cultural resources investigations and 47 prehistoric sites, 1 historic trash scatter, two multi-component sites with historic and prehistoric parts, and 20 prehistoric isolated artifacts within the mile radius. The prehistoric sites consist of 32 lithic scatters; 11 ground stone and lithic scatters, one ceramic and lithic scatter, one artifacts scatter, and two lithic scatters with hearths. The investigations for the Nobel Drive/Interstate 805 Interchange project included part of the current APE. Twelve prehistoric sites are located within the parcel boundary of Assessor's Parcel Number 345-011-24; however, none of the sites have been recorded within the APE (Confidential Appendix).

The review of historic aerial photographs indicates that the vicinity of the APE was developed sometime after 1981. None of the residential developments north and south were present on the 1981 aerial photo. Prior to that there were dirt roads as early as 1966. The residential developments and Shoreline Drive were noted in the 1990 aerial photograph. Nobel Drive was not a through street east of Shoreline Drive in the 1990 through 1997 aerial photos; it was extended east sometime before the 2002 aerial photo was taken (National Environmental Title Research 2015).

A letter was sent to the Native American Heritage Commission (NAHC) in Sacramento on October 28, 2015 requesting a search of their Sacred Lands File (Attachment 1). A response was received on November 5, 2015 indicating that the sacred land file failed to indicate the presence of Native American cultural resources in the immediate project area.

### *Survey Results*

No cultural material was found within the APE during the survey. A section approximately 12 meters wide along Shoreline Drive was not surveyed due to the thick ornamental vegetation. The visibility in the remainder of the APE varied from 50 to 100 percent ground visibility. Road gravel covered the area immediately east of the ornamental vegetation. Tractor-pushed piles of gravel and naturally-occurring hands-sized cobbles were noted as well (Photograph 1). Hand-sized cobbles were scattered throughout the APE. Non-native grasses and weeds covered a portion within the central part of the APE. This area contained loosely compacted soils as opposed to the more compact soils downslope in the southeastern portion of the APE where native grasses were (Photograph 2). The southeastern portion of the APE is the only area that

appears not to have been disturbed in the past. The remainder of the APE has been disturbed during the construction of Novel Drive and Shoreline Drive. The northern edge has been disturbed and built-up during the construction of Nobel Drive (Photograph 3).

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**VI. RECOMMENDATIONS**

The cultural resource investigations summarized herein satisfy the study and documentation requirements identified by City of San Diego Development Services staff and are consistent with the goals and policies of the City of San Diego as published in the Land Development Manual. Although no cultural material was identified during the survey, there are a number of resources within a 1-mile radius and therefore there is potential for unknown subsurface cultural resource deposits to occur in the undisturbed area. Because the project requires extensive grading within an area that has not been significantly disturbed, RECON recommends archaeological and Native American monitors during grading.

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**VII. SOURCES CONSULTED**

**DATE**

National Register of Historic Places <input checked="" type="checkbox"/>	Month and Year: November 2015
California Register of Historical Resources <input checked="" type="checkbox"/>	Month and Year: November 2015
City of San Diego Historical Resources Register <input checked="" type="checkbox"/>	Month and Year: November 2015
Archaeological/Historical Site Records: South Coastal Information Center <input checked="" type="checkbox"/>	Month and Year: August 2015
Other Sources Consulted: National Environmental Title Research (NETR) Online-Historic Aerials - <a href="http://www.historicaerials.com/">http://www.historicaerials.com/</a> accessed on September 14, 2015.	

---

**VIII. CERTIFICATION**

Preparer: Carmen Zepeda-Herman, M.A.	Title: Principal Investigator
Signature: 	Date: February 20, 2017

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## **IX. ATTACHMENTS**

Bibliography  
Attached.

National Archaeological Data Base Information  
Attached

Maps (include all of the following maps.)

- Figure 1. Regional Location of the North University City Fire Station 50 Project
- Figure 2. Project Site Location on USGS Map
- Figure 3. Project Location on City 800' Map
- Figure 4. Project Location on Aerial Photograph

Photographs

- Photograph 1: Tractor-pushed Pile of Gravel and Cobbles
- Photograph 2: Undisturbed Area with Minimal Vegetation, Looking Southwest
- Photograph 3: Disturbance from Construction of Nobel Drive and Right Side,  
Looking West-Southwest

NAHC Request Letter

Personnel Qualifications (Include resumes if not already on file with the City.)  
Resumes are already on file with the City.

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## **X. CONFIDENTIAL APPENDICES (Bound separately)**

South Coastal Information Center record search results.  
Maps from record search results from South Coastal Information Center (Under separate cover).

New or updated historical resource records  
None.

## BIBLIOGRAPHY

Carrico, Richard L.

- 1987 *Strangers in a Stolen Land. American Indians in San Diego 1850-1880.* Sierra Oaks Publishing, Newcastle, California.

Cline, Lora L.

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Cook, Sherburne F.

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Hector, Susan M., and Stephen R. Van Wormer

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May, Ronald V.

- 1976 *An Early Ceramic Date Threshold in Southern California.* *Masterkey* 50(3):103-107.

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- 1938 *Archaeological and Geological Investigations of the Culture Levels in an Old Channel of San Dieguito Valley.* *Carnegie Institution of Washington Yearbook* 37:344-45.

- 1939 *Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas.* *San Diego Museum of Man Papers* 3.

- 1945 *An Outline of Yuman Prehistory.* *Southwestern Journal of Anthropology* 1(2):167-198. Albuquerque.

Rolle, Andrew

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- 1970 *Investigation of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California.* Department of Anthropology Publications, University of California, Los Angeles.

U.S. Department of Agriculture

1973 *Soil Survey, San Diego Area, California. Edited by Roy H. Bowman. Soil Conservation Service and Forest Service. December.*

Warren, Claude N., Gretchen Siegler, and Frank Dittmer

1993 *Paleoindian and Early Archaic Periods. In Historic Properties Background Study for the City of San Diego Clean Waste Program. On file with Mooney and Associates.*

## NATIONAL ARCHAEOLOGICAL DATA BASE INFORMATION

Author: Carmen Zepeda-Herman, M.A.

Consulting Firm: RECON Environmental, Inc.  
1927 Fifth Avenue  
San Diego, CA 92101-2358

Report Date: February 20, 2017

Report Title: Archaeological Resources Report for North University City Fire Station 50 Project, San Diego, California

Prepared for: City of San Diego  
Engineering & Capital Projects  
525 B Street, Suite, 750  
San Diego, CA 92101

Contract Number: RECON 7617

USGS Quadrangle Map: La Jolla Quadrangle

Acreage: 0.94 acre

Keywords: Negative survey, University City

### ABSTRACT

A historical resources survey was conducted for the proposed University City Fire Station 50 project, in the community of University City, city of San Diego, California. The survey included a record search at the South Coastal Information Center (SCIC). RECON archaeologist Carmen Zepeda-Herman and Nathaniel Yerka completed the field investigation on September 8, 2015, accompanied by Tuchon Phoenix, a Native American representative from Red Tail Monitoring and Research. The files at the SCIC showed no prehistoric or historic sites recorded in the project area. A portion of the project area has been cleared of vegetation and had some topsoil removed in the past. This may have been a result of the construction of the existing vault. No prehistoric or historic cultural resources were found during the field survey. The possibility of significant historical resources being present on the project area is considered low. No further cultural resource work is recommended by RECON for the proposed project.

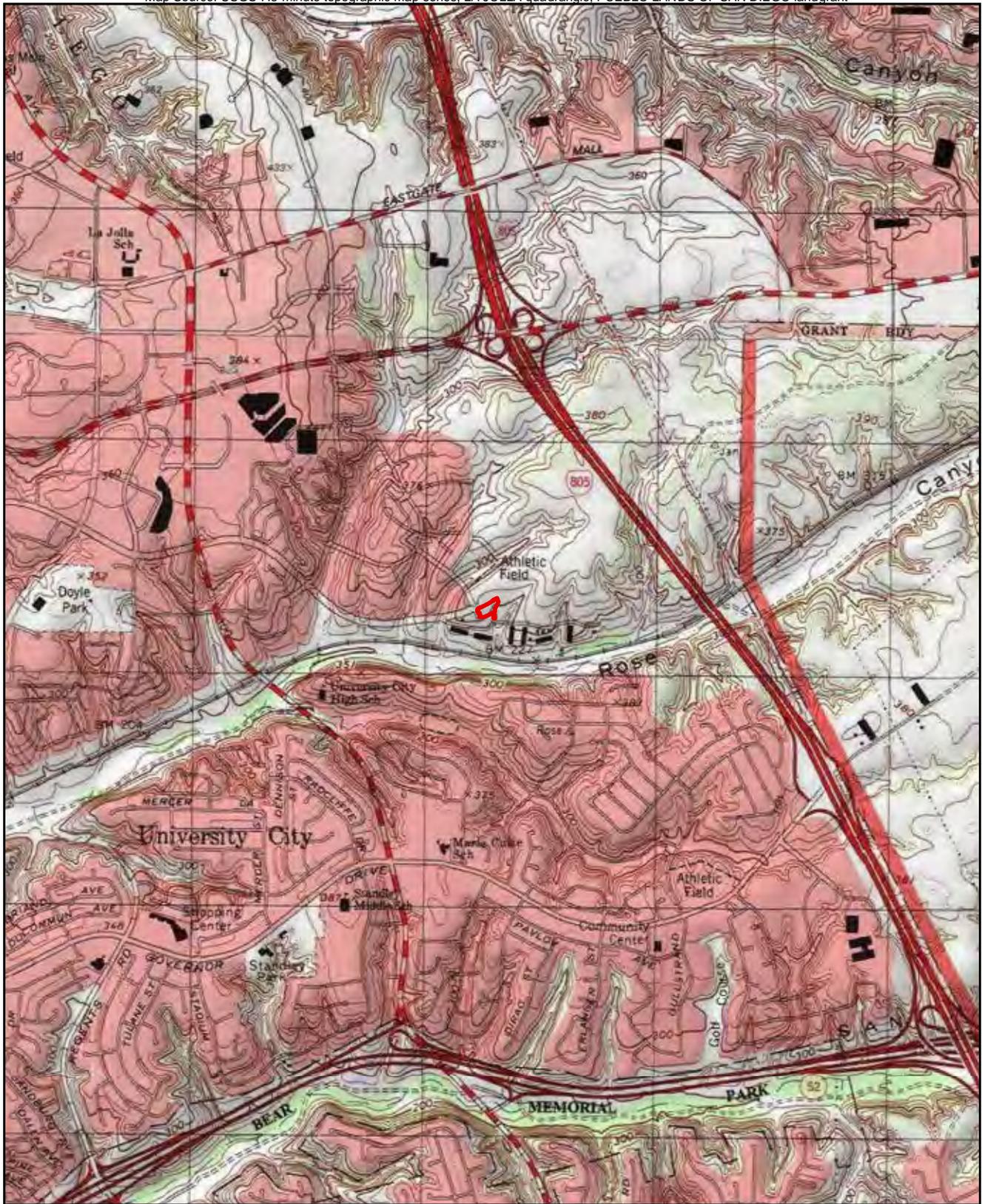


**\*** Project Location

**FIGURE 1**

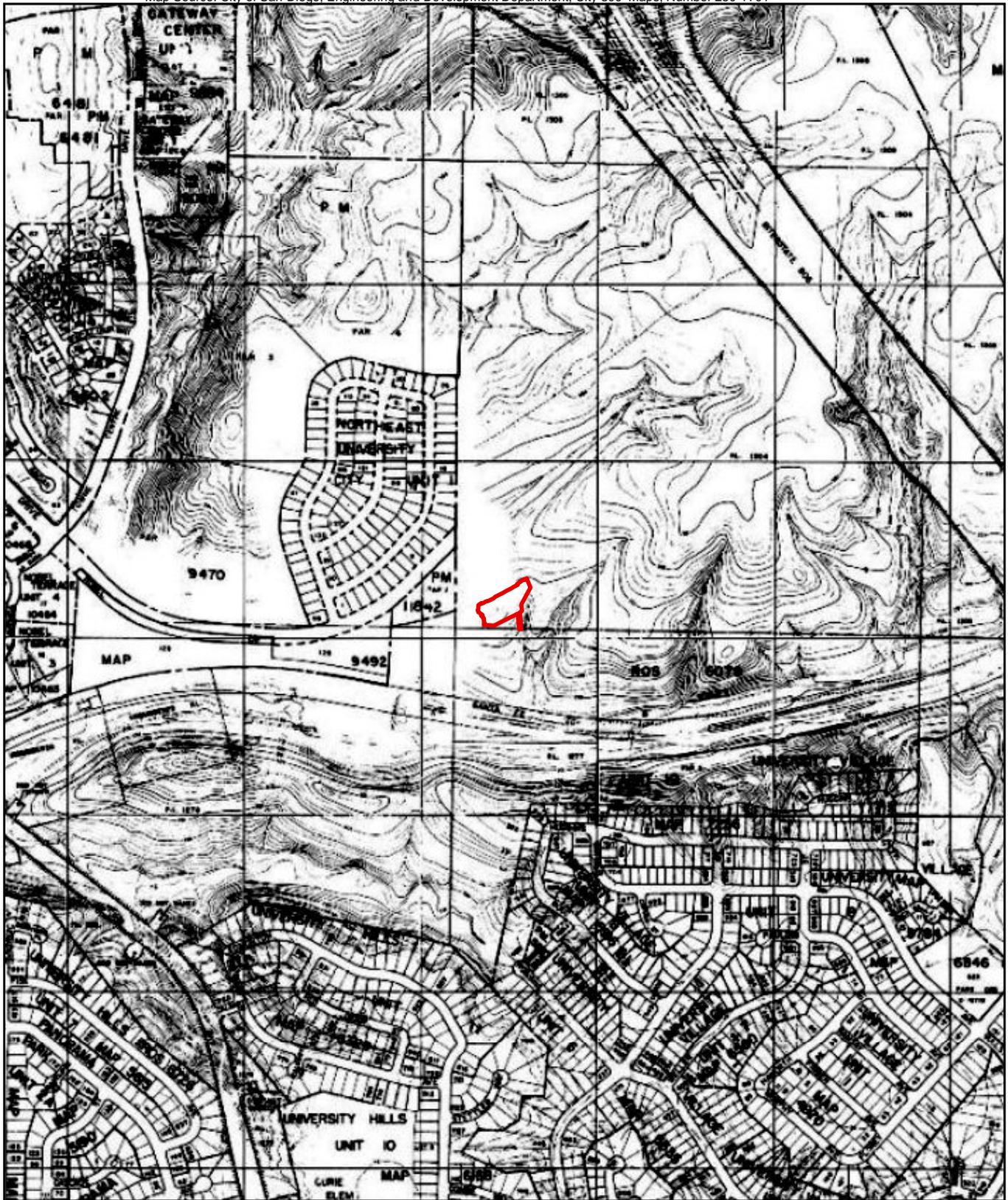
**Regional Location of the North University City Fire Station 50 Project**





 Project Site

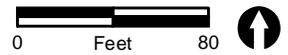
FIGURE 2



 Project Site

FIGURE 3

Project Location on City 800' Map



-  Project Site
-  Site Plan

FIGURE 4



PHOTOGRAPH 1  
Tractor-pushed Pile of Gravel and Cobbles



PHOTOGRAPH 2  
Undisturbed Area with Minimal Vegetation, Looking Southwest



**PHOTOGRAPH 3**  
Disturbance from Construction of Nobel  
Drive on Right Side, Looking West-Southwest

**Project:** North University City Fire Station 50 Project

**County:** San Diego County

**USGS Quadrangle**

**Name:** La Jolla

**Township:** 15 South                      **Range:** 3 West  
Pueblo Lands of the San Diego landgrant

**Section(s):** Unsectioned Portion of

**Contact Information**

**Company/Firm/Agency:** RECON Environmental

**Contact:** Carmen Zepeda-Herman

**Street Address:** 1927 Fifth Avenue

**City:** San Diego    **ZIP:**92101

**Phone:** 619-308-9333

**Fax:** 619-308-9334

**Email:** czepeda@reconenvironmental.com

**Project Description:**

The proposed project entails the construction of a new fire station and associated site improvements on a vacant City of San Diego-owned parcel. The development footprint of the project would comprise approximately 0.6 acre. The three-story, 12,000-square-foot fire station would accommodate 11 new personnel and equipment in order to provide emergency response times that meet City and national standards within the University City area. The station would include offices and living quarters to house crew members during shifts, as well as an apparatus bay for storage of the fire engines when not on call. In addition to parking for employees, the site plan also includes an equipment yard to allow for on-site cleaning and maintenance of the vehicles, as well as a fueling station, propane tank, emergency generator, and trash enclosure. The project would also provide adequate storm water control measures, native landscaping, and cutoff lighting.

**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Blvd., ROOM 100  
West SACRAMENTO, CA 95691  
(916) 373-3710  
Fax (916) 373-5471



November 5, 2015

Carmen Zepeda-Herman  
RECON Environmental  
1927 Fifth Avenue  
San Diego, CA 92101

Sent Via Email: [czepeda@reconenvironmental.com](mailto:czepeda@reconenvironmental.com)  
Number of Pages: 4

RE: North University City Fire Station 50 Project, San Diego County

Dear Ms. Zepeda-Herman:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

A handwritten signature in black ink, appearing to read "Katy Sanchez", written over a horizontal line.

Katy Sanchez  
Associate Environmental Planner

**Native American Contact List  
San Diego County  
November 5, 2015**

Campo Band of Mission Indians  
Ralph Goff, Chairperson  
36190 Church Road, Suite 1 Diegueno/Kumeyaay  
Campo, CA 91906  
rgoff@campo-nsn.gov  
(619) 478-9046

(619) 478-5818.Fax

Ewiiapaayp Tribal Office  
Robert Pinto Sr., Chairperson  
4054 Willows Road Diegueno/Kumeyaay  
Alpine, CA 91901  
(619) 445-6315

(619) 445-9126 Fax

Ewiiapaayp Tribal Office  
Will Micklin, Executive Director  
4054 Willows Road Diegueno/Kumeyaay  
Alpine, CA 91901  
wmicklin@leaningrock.net  
(619) 445-6315

(619) 445-9126 Fax

Ewiiapaayp Tribal Office  
Michael Garcia, Vice Chairperson  
4054 Willows Road Diegueno/Kumeyaay  
Alpine, CA 91901  
michaelg@leaningrock.net  
(619) 445-6315

(619) 445-9126 Fax

lipay Nation of Santa Ysabel  
Clint Linton, Director of Cultural Resources  
P.O. Box 507 Diegueno/Kumeyaay  
Santa Ysabel, CA 92070  
cjinton73@aol.com  
(760) 803-5694

lipay Nation of Santa Ysabel  
Virgil Perez, Chairperson  
P.O. Box 130 Diegueno/Kumeyaay  
Santa Ysabel, CA 92070  
(760) 765-0845

(760) 765-0320 Fax

Inter-Tribal Cultural Resource Protection Council  
Frank Brown, Coordinator  
240 Brown Road Diegueno/Kumeyaay  
Alpine, CA 91901  
frbrown@viejas-nsn.gov  
(619) 884-6437

Jamul Indian Village  
Raymond Hunter, Chairperson  
P.O. Box 612 Diegueno/Kumeyaay  
Jamul, CA 91935  
Rhunter1948@yahoo.com  
(619) 669-4785

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed North University City Fire Station 50 Project, San Diego County.

**Native American Contact List  
San Diego County  
November 5, 2015**

Kumeyaay Cultural Historic Committee  
Ron Christman  
56 Viejas Grade Road      Diegueno/Kumeyaay  
Alpine      , CA 91901  
(619) 445-0385

Kwaaymii Laguna Band of Mission Indians  
Carmen Lucas  
P.O. Box 775      Diegueno-Kwaaymii  
Pine Valley      , CA 91962      Kumeyaay  
(619) 709-4207

Kumeyaay Cultural Repatriation Committee  
Steve Banegas, Spokesperson  
1095 Barona Road      Diegueno/Kumeyaay  
Lakeside      , CA 92040  
sbanegas50@gmail.com  
(619) 742-5587  
  
(619) 443-0681 Fax

La Posta Band of Mission Indians  
Gwendolyn Parada, Chairperson  
8 Crestwood Road      Diegueno/Kumeyaay  
Boulevard      , CA 91905  
LPboots13@aol.com  
(619) 478-2113  
(619) 478-2125 Fax

Kumeyaay Cultural Repatriation Committee  
Bernice Paipa, Secretary  
1095 Barona Road      Diegueno/Kumeyaay  
Lakeside      , CA 92040  
bernicepaipa@gmail.com  
(619) 312-7222

Manzanita Band of Kumeyaay Nation  
Angela Elliott Santos, Chairperson  
P.O. Box 1302      Diegueno/Kumeyaay  
Boulevard      , CA 91905  
aelliottsantos7@aol.com  
(619) 766-4930  
  
(619) 766-4957 Fax

Kumeyaay Diegueno Land Conservancy  
Mr. Kim Bactad, Executive Director  
2 Kwaaypaay Court      Diegueno/Kumeyaay  
El Cajon      , CA 92019  
kimbactad@gmail.com  
(619) 659-1008 Office  
  
(619) 445-0238 Fax

Manzanita Band of Mission Indians  
ATTN: David Thompson, EPA  
P.O. Box 1302      Kumeyaay  
Boulevard      , CA 91905  
(619) 766-4851  
  
(619) 766-4957 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed North University City Fire Station 50 Project, San Diego County.

**Native American Contact List  
San Diego County  
November 5, 2015**

Manzanita Band of the Kumeyaay Nation  
Nick Elliott, Cultural Resources Coordinator  
P.O. Box 1302 Kumeyaay  
Boulevard , CA 91905  
nickmepa@yahoo.com  
(619) 766-4930  
(619) 925-0952 Cell  
(919) 766-4957 Fax

Viejas Band of Kumeyaay Indians  
ATTN: Julie Hagen, Cultural Resources  
P.O. Box 908 Diegueno/Kumeyaay  
Alpine , CA 91903  
jhagen@viejas-nsn.gov  
(619) 445-3810  
(619) 445-5337

Sycuan Band of the Kumeyaay Nation  
Lisa Haws, Cultural Resource Manager  
1 Kwaaypaay Court Diegueno/Kumeyaay  
El Cajon , CA 92019  
(619) 445-4564

Sycuan Band of the Kumeyaay Nation  
Cody J. Martinez, Chairperson  
1 Kwaaypaay Court Diegueno/Kumeyaay  
El Cajon , CA 92019  
ssilva@sycuan-nsn.gov  
(619) 445-2613

(619) 445-1927 Fax

Viejas Band of Kumeyaay Indians  
Anthony R. Pico, Chairperson  
P.O. Box 908 Diegueno/Kumeyaay  
Alpine , CA 91903  
jhagen@viejas-nsn.gov  
(619) 445-3810

(619) 445-5337 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed North University City Fire Station 50 Project, San Diego County.

**ATTACHMENT B**  
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**ATTACHMENT C**  
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**ATTACHMENT D**  
**PREVAILING WAGES**

## PREVAILING WAGES

1. **PREVAILING WAGE RATES:** Pursuant to San Diego Municipal Code section 22.3019, construction, alteration, demolition, repair and maintenance work performed under this Contract is subject to State prevailing wage laws. For construction work performed under this Contract cumulatively exceeding \$25,000 and for alteration, demolition, repair and maintenance work performed under this Contract cumulatively exceeding \$15,000, the Contractor and its subcontractors shall comply with State prevailing wage laws including, but not limited to, the requirements listed below.
  - 1.1. **Compliance with Prevailing Wage Requirements.** Pursuant to sections 1720 through 1861 of the California Labor Code, the Contractor and its subcontractors shall ensure that all workers who perform work under this Contract are paid not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations (DIR). This includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.
    - 1.1.1. Copies of such prevailing rate of per diem wages are on file at the City and are available for inspection to any interested party on request. Copies of the prevailing rate of per diem wages also may be found at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. Contractor and its subcontractors shall post a copy of the prevailing rate of per diem wages determination at each job site and shall make them available to any interested party upon request.
    - 1.1.2. The wage rates determined by the DIR refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, then the published rate of wage shall be in effect for the life of this Contract. If the published wage rate refers to a predetermined wage rate to become effective upon expiration of the published wage rate and the predetermined wage rate is on file with the DIR, such predetermined wage rate shall become effective on the date following the expiration date and shall apply to this Contract in the same manner as if it had been published in said publication. If the predetermined wage rate refers to one or more additional expiration dates with additional predetermined wage rates, which expiration dates occur during the life of this Contract, each successive predetermined wage rate shall apply to this Contract on the date following the expiration date of the previous wage rate. If the last of such predetermined wage rates expires during the life of this Contract, such wage rate shall apply to the balance of the Contract.
  - 1.2. **Penalties for Violations.** Contractor and its subcontractors shall comply with California Labor Code section 1775 in the event a worker is paid less than the prevailing wage rate for the work or craft in which the worker is employed.

- 1.3. Payroll Records.** Contractor and its subcontractors shall comply with California Labor Code section 1776, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require its subcontractors to also comply with section 1776. Contractor and its subcontractors shall submit weekly certified payroll records online via the City's web-based Labor Compliance Program. Contractor is responsible for ensuring its subcontractors submit certified payroll records to the City.
- 1.3.1.** For contracts entered into on or after April 1, 2015, Contractor and their subcontractors shall furnish records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.
- 1.4. Apprentices.** Contractor and its subcontractors shall comply with California Labor Code sections 1777.5, 1777.6 and 1777.7 concerning the employment and wages of apprentices. Contractor is held responsible for the compliance of their subcontractors with sections 1777.5, 1777.6 and 1777.7.
- 1.5. Working Hours.** Contractor and their subcontractors shall comply with California Labor Code sections 1810 through 1815, including but not limited to: (i) restrict working hours on public works contracts to eight hours a day and forty hours a week, unless all hours worked in excess of 8 hours per day are compensated at not less than 1½ times the basic rate of pay; and (ii) specify penalties to be imposed on design professionals and subcontractors of \$25 per worker per day for each day the worker works more than 8 hours per day and 40 hours per week in violation of California Labor Code sections 1810 through 1815.
- 1.6. Required Provisions for Subcontracts.** Contractor shall include at a minimum a copy of the following provisions in any contract they enter into with a subcontractor: California Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860 and 1861.
- 1.7. Labor Code Section 1861 Certification.** Contractor in accordance with California Labor Code section 3700 is required to secure the payment of compensation of its employees and by signing this Contract, Contractor certifies that "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract."
- 1.8. Labor Compliance Program.** The City has its own Labor Compliance Program authorized in August 2011 by the DIR. The City will withhold contract payments when payroll records are delinquent or deemed inadequate by the City or other governmental entity, or it has been established after an investigation by the City or other governmental entity that underpayment(s) have occurred. For questions or assistance, please contact the City of San Diego's Equal Opportunity Contracting Department at 619-236-6000.

**1.9. Contractor and Subcontractor Registration Requirements.** This project is subject to compliance monitoring and enforcement by the DIR. As of March 1, 2015, no contractor or subcontractor may be listed on a bid or proposal for a public works project unless registered with the DIR pursuant to Labor Code section 1725.5. As of April 1, 2015, a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, or enter into any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration to the City upon request.

**1.9.1.** A Contractor's inadvertent error in listing a subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid non-responsive provided that any of the following apply: (1) the subcontractor is registered prior to bid opening; (2) within twenty-four hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.

**ATTACHMENT E**  
**SUPPLEMENTARY SPECIAL PROVISIONS (SSP)**

## SUPPLEMENTARY SPECIAL PROVISIONS

The following Supplementary Special Provisions (SSP) modifies the following documents:

1. The **2015 Edition** of the Standard Specifications for Public Works Construction (The "GREENBOOK").
2. The **2015 Edition** of the City of San Diego Standard Specifications for Public Works Construction (The "WHITEBOOK"), including the following:
  - a) General Provisions (A) for all Contracts.
  - b) General Provisions (C) for Design-Build Contracts.

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### SECTION 1 – TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

- 1-2 TERMS AND DEFINITIONS.** To the "WHITEBOOK", item 54, "Normal Working Hours", ADD the following:

The **Normal Working Hours** are 7:00 AM to 3:30 PM.

### SECTION 2 - SCOPE AND CONTROL OF WORK

- 2-3.2 Self Performance.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The self performance percentage requirement will be waived for Prime Contractors meeting the Class B License requirement of this Contract.

- 2-7 SUBSURFACE DATA.** To the "WHITEBOOK", ADD the following:

4. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests of subsurface conditions at the Work Site:
  - a) Geotechnical Evaluation dated August 18, 2016 by Ninyo & Moore and Associates. See Exhibit I.

- 2-9.2 Survey Service.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Prior to the start of design, you shall submit a letter to the Engineer identifying the Licensed Land Surveyor or the Registered Civil Engineer authorized to practice land surveying within the State of California that will be performing the design phase survey services for the Project.
2. Prior to the start of construction, you shall submit a letter to the Engineer identifying the Licensed Land Surveyor or the Registered Civil Engineer authorized to practice land surveying within the State of California that will be performing the construction phase survey services for the Project.

3. You are responsible for performing and meeting the accuracy of surveying standards adequate for construction through a Licensed Land Surveyor or a Registered Civil Engineer authorized to practice land surveying within the State of California.
4. Survey stakes shall be set and stationed by you for curbs, headers, water mains, sewers, storm drains, structures, rough grade, and any other structures and appurtenances that are needed for the Project. A corresponding cut or fill to finished grade (or flow line) shall be indicated on a grade sheet.
5. Surveys performed shall list the basis of bearings as tied to Record of Survey 14492 or equivalent, based on the California Coordinate System of 1983, Zone 6, U.S. Survey foot, epoch 1991.35, along with a completed calibration sheet (blank form will be supplied by City Surveys). The vertical datum used shall be NGVD 29 in accordance with the City of San Diego Vertical Bench Book.
6. You shall preserve construction survey stakes, control points, and other survey related marks for the duration of the Project. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement shall be performed by the Engineer at your expense.
7. Survey Services shall be procured or performed by the Design Consultant.

#### **2-9.2.1**

#### **Survey Files.**

1. All Computer Aided Drafting (CAD) Work shall be done in accordance with the City of San Diego's Citywide Computer Aided Design and Drafting (CADD) Standards and shall be in City seed files (.job, .txt, .dgn, .alg, .raw, .fwd, .dtm, .pdf, .docx, .xlsx, .tif, and .jpg).
2. All survey files shall be completed in accordance with the City of San Diego's Citywide CADD Standards and shall adhere to the City's Microstation level and attribute structure.
3. The survey file deliverable will be either one Master .dgn file containing all xref's in geospatially referenced (and attached) models or one Master dgn with all xref's geospatially referenced (and attached) as dgn files. Resource files may be sent to you if requested.
4. Survey files shall include, but shall not be limited to, the following items:
  - a) Street center line and (record width) right-of-way lines.
  - b) Project geometry (.alg) files (this will be generated for use in InRoads).
  - c) 3D surface model (.dtm, break line and spot elevation) file.
  - d) Spot elevations of the new utility main at each intersection, midblocks, and for any change in grade.
  - e) Monuments.
  - f) Curb lines (top curb and gutter).

- g) All other appurtenances including but not limited to water valves, meters, vaults, manholes, fire hydrants, utility boxes, cleanouts, and poles.
- 5. You shall use the survey information to produce red-lines drawings as described in Section 2-5.4 "Red-lines and Record Documents."

**2-9.2.2 Submittal.**

- 1. Survey files shall be submitted in accordance with 2-5.3, "Submittals" and 2-5.4, "Red-Lines and Record Documents". You shall provide the Survey Files, proposed Drawings, and/or Red-line Drawings on a CD/DVD to the Engineer and shall post the Survey Files, proposed Drawings, and/or Red-line Drawings to the following website:

<https://filecloud.sandiego.gov/url/rsj3ayurc35o>

- 2. After the documents have been posted to the website, you shall send a confirmation email, which includes the hyperlink to the website, to the Engineer and to [SurveyReview@sandiego.gov](mailto:SurveyReview@sandiego.gov).
- 3. All survey Work and submittals which reveal non-compliance with the requirements of the Construction Documents shall be corrected as deemed necessary by the Engineer and the cost of the corrections to your survey submittals shall be at your expense.

**2-9.2.3 Payment.**

- 1. The payment for survey services Work shall be included in the Contract Price.

**2-15 TECHNICAL STUDIES AND DATA.** To the "WHITEBOOK", ADD the following:

- 3. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests at the Work Site:
  - a) Biological Survey Report dated February 20, 2017 by RECON, See Exhibit E, Attachment A.
  - b) Restoration and Revegetation Plan dated September 14, 2017 by RECON, See Exhibit F, Attachment A.
  - c) Noise Analysis dated February 22, 2017 by RECON, See Exhibit G, Attachment A.
  - d) Traffic Memorandum dated March 1, 2017 by Urban Systems Associates, Inc., See Exhibit H, Attachment A.

**2-16 CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM.** To the "WHITEBOOK", item 1, DELETE in its entirety.

## **SECTION 3 - CHANGES IN WORK**

**3-5.1**            **Claims.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

**ADD:  
3-5.1**

**Claims.**

1.        A Claim is a written demand by you that seeks an adjustment in the Contract Price, Contract Time, or other relief associated with a dispute arising under or relating to the Contract, including a breach of any provision thereof. A voucher, invoice, or other routine request for payment is not a Claim.
  
2.        A Claim shall conform to these specifications and may be considered after the City has previously denied a request by you for a Change Order seeking the demanded relief.
  
3.        You shall submit a Claim to the Engineer if a dispute occurs that arises from or relates to the Contract. The Claim shall seek all relief to which you assert you are entitled as a result of the event(s) giving rise to the dispute. Your failure to process a Claim in accordance with these specifications shall constitute a waiver of all relief associated with the dispute. Claims are subject to 6-11, "Right to Audit".
  
4.        You shall continue to perform the Services and Work and shall maintain the Schedule during any dispute proceedings. The Engineer will continue to make payments for undisputed Services and Work.
  
5.        The City's Claims process specified herein shall not relieve you of your statutory obligations to present claims prior to any action under the California Government Code.

**3-5.1.1**            **Initiation of Claim.**

1.        You shall promptly, but no later than 30 Days after the event(s) giving rise to the Claim, deliver the Claim to the Engineer.
  
2.        You shall not process a Claim unless the Engineer has previously denied a request by you for a Change Order that sought the relief to be pursued in the claim.

**3-5.1.1.1**            **Claim Certification Submittal.**

1.        If your Claim seeks an increase in the Contract Price, the Contract Time, or both, submit with the Claim an affidavit certifying the following:
  - a)        The Claim is made in good faith and covers all costs and delays to which you are entitled as a result of the event(s) giving rise to the Claim.
  
  - b)        The amount claimed accurately reflects the adjustments in the Contract Price, the Contract Time, or both to which you believe you are entitled.

- c) All supporting costs and pricing data are current, accurate, and complete to the best of your knowledge. The cost breakdown per item of Work shall be supplied.
- d) You shall ensure that the affidavit is executed by an official who has the authority to legally bind you.

**3-5.1.2 Initial Determination.**

- 1. The Engineer will respond in writing to your Claim within 30 Days of receipt of the Claim.

**3-5.1.3 Settlement Meeting.**

- 1. If you disagree with the Initial Determination, you shall request a Settlement Meeting within 30 Days. Upon receipt of this request, the Engineer will schedule the Settlement Meeting within 15 Working Days.

**3-5.1.7 City's Final Determination.**

- 1. If a settle agreement is not reached, the City shall make a written Final Determination within 10 Working Days after the Settlement Meeting.
- 2. If you disagree with the City's Final Determination, notify the Engineer in writing of your objection within 15 Working Days after receipt of the written determination and file a "Request for Mediation" in accordance with 3-5.2, "Dispute Resolution Process".
- 3. Failure to give notice of objection within the 15 Working Days period shall waive your right to pursue the Claim.

**3-5.1.8 Mandatory Assistance.**

- 1. If a third party dispute, litigation, or both arises out of or relates in any way to the Services provided under the Contract, upon the City's request, you shall agree to assist in resolving the dispute or litigation. Your assistance includes, but is not limited to the following:
  - a) Providing professional consultations.
  - b) Attending mediations, arbitrations, depositions, trials, or any event related to the dispute resolution and litigation.

**3-5.1.8.1 Compensation for Mandatory Assistance.**

- 1. The City will reimburse you for reasonable fees and expenses incurred by you for any required assistance rendered in accordance with 3-5.1.8, "Mandatory Assistance" as Extra Work.
- 2. The Engineer will determine whether these fees and expenses were necessary due to your conduct or failure to act.
- 3. If the Engineer determines that the basis of the dispute or litigation in which these fees and expenses were incurred were the result of your conduct or your failure to act in part or in whole, you shall reimburse the City for any payments made for these fees and expenses.

4. Reimbursement may be through any legal means necessary, including the City's withholding of your payment.

### **3-5.2.3**

**Selection of Mediator.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. A single mediator, knowledgeable in construction aspects and acceptable to both parties, shall be used to mediate the dispute.
2. To initiate mediation, the initiating party shall serve a Request for Mediation at the American Arbitration Association (AAA) on the opposing party.
3. If AAA is used, the initiating party shall concurrently file with AAA a "Request for Mediation" along with the appropriate fees, a copy of requested mediators marked in preference order, and a preference for available dates.
4. If AAA is selected to coordinate the mediation (Administrator), within 10 Working Days from the receipt of the initiating party's Request for Mediation, the opposing party shall file the following:
  - a) A copy of the list of the preferred mediators listed in preference order after striking any mediators to which they have any objection.
  - b) A preference for available dates.
  - c) Appropriate fees.
5. If the parties cannot agree on a mediator, then each party shall select a mediator and those mediators shall select the neutral third party to mediate the matter.

### **ADD:**

### **3-5.2.5**

#### **Dispute Resolution Board.**

1. If mediation is unsuccessful in settling the dispute and if both parties agree, a no mandatory dispute resolution board process may be used.
2. The parties may impanel a Dispute Resolution Board (DRB) and the DRB process shall be conducted in accordance with the City's alternative dispute resolution process, utilizing board members who are individuals who have expertise in construction. The selection process shall be administered by the American Arbitration Association or any other such neutral organization selected by the City hereinafter called the "Administrator". Claims made for \$60,000 or less shall be heard by 1 DRB member and claims for more than \$60,000 shall be heard by 3 DRB members.
3. To initiate the DRB procedures, the parties shall jointly execute and file a "Submission to Dispute Resolution Board Procedures" request with the Administrator. Upon receipt by the Administrator of the submission form, the Administrator will furnish to the parties a list of individuals skilled in dispute resolution and that have expertise in construction from which to select for the Dispute Resolution Board.
4. Within 10 Working Days from the date the list is sent to the parties, the parties shall return the list to the Administrator and shall strike out any individuals to which the parties have any factual objections to and shall number the remaining

individuals in preference order. The Administrator will appoint the highest mutually preferred individuals to the DRB that are available to serve in the time frame designated above.

**3-5.3 Forum of Litigation.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. It is the express intention that all legal actions and proceedings related to the Contract or Agreement with the City or to any rights or any relationship between the parties arising therefrom shall be solely and exclusively initiated and maintained in courts of the State of California for the County of San Diego.

#### **SECTION 4 - CONTROL OF MATERIALS**

**4-1.3.1 General.** To the "WHITEBOOK", ADD the following:

1. Steel pipe in sizes larger than 18 inches shall require inspection at the source of production.
2. City lab staff or a qualified inspection agency approved by the Engineer shall witness all welding, lining, coating, and testing. You shall incur additional inspection costs outlined in 4-1.3.3, "Inspection of Items Not Locally Produced".
3. All parts of production (including but not limited to product fabrication, welding, testing, lining, and coating of straight pieces and specials) shall be performed or produced in the United States.
4. Welding and all testing shall be performed by certified welders and testing staff with credentials traceable in the United States.

**4-1.3.2 Inspection by the Agency.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The City will provide inspection and testing laboratory services within the continental United States within a 200-mile radius of the geographical limits of the City.

**4-1.3.3 Inspection of Items Not Locally Produced.** To the "WHITEBOOK", DELETE in its entirety.

**ADD:**

**4-1.3.3 Inspection of Items Not Locally Produced.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. When you intend to purchase materials, fabricated products, or equipment from sources located more than 200 miles (321.9 km) outside the geographical limits of the City, City Lab staff or a qualified inspection agency approved by the Engineer, shall be engaged at your expense to inspect the materials, equipment, or process.
2. This approval shall be obtained before producing any material or equipment. City Lab staff or inspector shall evaluate the materials for conformance with the requirements of the Plans and Specifications. You shall forward reports required by the Engineer. No materials or equipment shall be shipped nor shall any

processing, fabrication or treatment of such materials be done without proper inspection by City Lab staff or the approved agent. Approval by said agent shall not relieve you of responsibility for complying with the requirements of the Contract Documents.

3. The Engineer may elect City Lab staff to perform inspection of an out-of-town manufacturer. You shall incur additional inspection costs of the Engineer including lodging, meals, and incidental expenses based on Federal Per Diem Rates, along with travel and car rental expenses. If the manufacturing plant operates a double shift, a double shift shall be figured in the inspection costs.
  - a) At the option of the Engineer, full time inspection shall continue for the length of the manufacturing period. If the manufacturing period will exceed 3 consecutive weeks, you shall incur additional inspection expenses of the Engineer's supervisor for a trip of 2 Days to the site per month.
  - b) When the Engineer elects City Lab staff to perform out-of-town inspections, the wages of staff employed by the City shall not be part of the additional inspection expenses paid by you.
  - c) Federal Per Diem Rates can be determined at the location below:

<https://www.gsa.gov/portal/content/104877>

**4-1.3.4 Inspection Paid For By the Contractor.** To the "WHITEBOOK" 2015, ADD the following:

2. All special inspections required by the Building Officials issuing the construction permits.

**4-1.3.5 Special Inspection.** To the "WHITEBOOK" 2015, ADD the following:

5. The payment for special inspection Work specified under this section shall be paid in accordance with 4-1.3.4.1, "Payment". White Book 2015.

**4-1.3.6 Preapproved Materials.** To the "WHITEBOOK", ADD the following:

3. You shall submit in writing a list of all products to be incorporated in the Work that are on the AML.

**4-1.6 Trade Names or Equals.** To the "WHITEBOOK", ADD the following:

12. You shall submit your list of proposed substitutions for an "equal" **no later than 5 Working Days after the determination of the Apparent Low Proposer** and on the City's Product Submittal Form available at:

<http://www.sandiego.gov/publicworks/edocref/index.shtml>

## SECTION 5 - UTILITIES

**5-6 COOPERATION.** To the "GREENBOOK", ADD the following:

1. Notify SDG&E at least 10 Working Days prior to excavating within 10 feet of SDG&E Underground High Voltage Transmission Power Lines (69 KV and higher).

## SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

### 6-1.1 **Construction Schedule.** To the "WHITEBOOK", item 20, ADD the following:

The 90 and 120 Calendar Day for the Plant Establishment Period is included in the stipulated Contract Time.

To the "WHITEBOOK", item 22, subsection b, DELETE in its entirety and SUBSTITUTE with the following:

- b) A curve value percentage comparison between the Contract Price and the updated cash flow forecast for each Project ID included in the\_Contract Documents. Curve values shall be set on a scale from 0% to 100% in intervals of 5% of the Contract Time. Refer to the Sample City Invoice materials in the Contract Documents and use the format shown. Your invoice amounts shall be supported by this curve value percentage. For previous periods, use the actual values and percentages and update the curve value percentages accordingly.

### 6-3.2.2 **Archeological and Native American Monitoring Program.** To the "WHITEBOOK" 2015, ADD the following:

4. The contractor will retain a qualified archaeologist for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the archaeologist monitor. Notify the Engineer before noon of the Working Day before monitoring is required. See 2-11, "INSPECTION" for details.

### 6-3.2.3 **Paleontological Monitoring Program.** To the "WHITEBOOK" 2015, ADD the following:

3. The contractor will retain a qualified paleontologist for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the paleontologist monitor. Notify the Engineer before noon of the Working Day before monitoring is required. See 2-11, "INSPECTION" for details.

#### ADD:

### 6-3.2.1.1 **Environmental Document.**

1. The City of San Diego Environmental Analysis Section (EAS) of the Development Services Department has prepared a **Mitigated Negative Declaration** for **North University Fire Station 50**, PTS No. **463835**, as referenced in the Contract Appendix. You shall comply with all requirements of the **Mitigated Negative Declaration** as set forth in **Appendix A & Exhibit F** for additional information.
2. Compliance with the City's environmental document shall be included in the Contract Price, unless separate bid items have been provided.

### 6-8.1.1 **Requirements Preparatory to Requesting a Walk-through.** To the "WHITEBOOK", ADD the following:

2. You shall notify the Engineer to arrange a final inspection of permanent BMPs installed and shall obtain the completed, signed, and stamped DS-563 Form 30 Days prior to the issuance of the Notice of Completion.

## SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

**7-3 INSURANCE.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

**7-3 INSURANCE.**

1. The insurance provisions herein shall not be construed to limit your indemnity obligations contained in the Contract.

**7-3.1 Policies and Procedures.**

1. You shall procure the insurance described below, at its sole cost and expense, to provide coverage against claims for loss including injuries to persons or damage to property, which may arise out of or in connection with the performance of the Work by you, your agents, representatives, officers, employees or Subcontractors.
2. Insurance coverage for property damage resulting from your operations is on a replacement cost valuation. The market value will not be accepted.
3. You shall maintain this insurance for the duration of this Contract and at all times thereafter when you are correcting, removing, or replacing Work in accordance with this Contract. Your liabilities under the Contract, e.g., your indemnity obligations, is not deemed limited to the insurance coverage required by this Contract.
4. The payment for insurance shall be included in the Contract Price as bid by you. Except as specifically agreed to by the City in writing, you are not entitled to any additional payment. Do not begin any Work under this Contract until you have provided and the City has approved all required insurance.
5. Policies of insurance shall provide that the City is entitled to 30 Days (10 Days for cancellation due to non-payment of premium) prior written notice of cancellation or non-renewal of the policy. Maintenance of specified insurance coverage is a material element of the Contract. Your failure to maintain or renew coverage or to provide evidence of renewal during the term of the Contract may be treated by the City as a material breach of the Contract.

**7-3.2 Types of Insurance.**

**7-3.2.1 Commercial General Liability Insurance.**

1. Commercial General Liability Insurance shall be written on the current version of the ISO Occurrence form CG 00 01 07 98 or an equivalent form providing coverage at least as broad.
2. The policy shall cover liability arising from premises and operations, XCU (explosions, underground, and collapse), independent contractors, products/completed operations, personal injury and advertising injury, bodily injury, property damage, and liability assumed under an insured's contract (including the tort liability of another assumed in a business contract).

3. There shall be no endorsement or modification limiting the scope of coverage for either “insured vs. insured” claims or contractual liability. You shall maintain the same or equivalent insurance for at least 10 years following completion of the Work.
4. All costs of defense shall be outside the policy limits. Policy coverage shall be in liability limits of not less than the following:

<u>General Annual Aggregate Limit</u>	<u>Limits of Liability</u>
Other than Products/Completed Operations	\$2,000,000
Products/Completed Operations Aggregate Limit	\$2,000,000
Personal Injury Limit	\$1,000,000
Each Occurrence	\$1,000,000

**7-3.2.2 Commercial Automobile Liability Insurance.**

1. You shall provide a policy or policies of Commercial Automobile Liability Insurance written on the current version of the ISO form CA 00 01 12 90 or later version or equivalent form providing coverage at least as broad in the amount of \$1,000,000 combined single limit per accident, covering bodily injury and property damage for owned, non-owned, and hired automobiles (“Any Auto”).
2. All costs of defense shall be outside the limits of the policy.

**7-3.2.3 Contractors Pollution Liability Insurance.**

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain the Contractors Pollution Liability Insurance including contractual liability coverage to cover liability arising out of cleanup, removal, storage, or handling of hazardous or toxic chemicals, materials, substances, or any other pollutants by you or any Subcontractor in an amount not less than \$2,000,000 limit for bodily injury and property damage.
2. All costs of defense shall be outside the limits of the policy. Any such insurance provided by your Subcontractor instead of you shall be approved separately in writing by the City.
3. For approval of a substitution of your Subcontractor’s insurance, you shall certify that all activities for which the Contractors Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance. The deductible shall not exceed \$25,000 per claim.
4. Contractual liability shall include coverage of tort liability of another party to pay for bodily injury or property damage to a third person or organization. There shall be no endorsement or modification of the coverage limiting the scope of coverage for either “insured vs. insured” claims or contractual liability.

5. Occurrence based policies shall be procured before the Work commences and shall be maintained for the Contract Time. Claims Made policies shall be procured before the Work commences, shall be maintained for the Contract Time, and shall include a 12 month extended Claims Discovery Period applicable to this contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work without advancing the retroactive date.
6. Except as provided for under California law, the policy or policies shall provide that the City is entitled to 30 Days prior written notice (10 Days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

### **7-3.2.5**

#### **Contractors Builders Risk Property Insurance.**

1. You shall provide at your expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance shall be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation) including the cost of excavations, grading, and filling. The policy or policies limits shall be 100% of this Contract value of the Work plus 15% to cover administrative costs, design costs, and the costs of inspections and construction management.
2. Insured property shall include material or portions of the Work located away from the Site but intended for use at the Site and shall cover material or portions of the Work in transit. The policy or policies shall include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies shall cover the cost of removing debris, including demolition.
3. The policy or policies shall provide that all proceeds thereunder shall be payable to the City as Trustee for the insured, and shall name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. The City, as Trustee, will collect, adjust, and receive all monies which may become due and payable under the policy or policies, may compromise any and all claims thereunder, and will apply the proceeds of such insurance to the repair, reconstruction, or replacement of the Work.
4. Any deductible applicable to the insurance shall be identified in the policy or policies documents and responsibility for paying the part of any loss not covered because of the application of such deductibles shall be apportioned among the parties except for the City as follows: if there is more than one claimant for a single occurrence, then each claimant shall pay a pro-rata share of the per occurrence deductible based upon the percentage of their paid claim to the total paid for insured. The City shall be entitled to 100% of its loss. You shall pay the City any portion of that loss not covered because of a deductible at the same time the proceeds of the insurance are paid to the City as trustee.
5. Any insured, other than the City, making claim to which a deductible applies shall be responsible for 100% of the loss not insured because of the deductible. Except as provided for under California law, the policy or policies shall provide that the

City is entitled to 30 Days prior written notice (10 Days for cancellation due to non-payment of premium) of cancellation or non-renewal of the policy or policies.

**7-3.3 Rating Requirements.** Except for the State Compensation Insurance Fund, all insurance required by this Contract as described herein shall be carried only by responsible insurance companies with a rating of, or equivalent to, at least "A-, VI" by A.M. Best Company, that are authorized by the California Insurance Commissioner to do business in the State, and that have been approved by the City.

**7-3.3.1 Non-Admitted Carriers.** The City will accept insurance provided by non-admitted, "surplus lines" carriers only if the carrier is authorized to do business in the State and is included on the List of Approved Surplus Lines Insurers (LASLI list).

All policies of insurance carried by non-admitted carriers shall be subject to all of the requirements for policies of insurance provided by admitted carriers described herein.

**7-3.4 Evidence of Insurance.** Furnish to the City documents e.g., certificates of insurance and endorsements evidencing the insurance required herein, and furnish renewal documentation prior to expiration of this insurance. Each required document shall be signed by the insurer or a person authorized by the insurer to bind coverage on its behalf. We reserve the right to require complete, certified copies of all insurance policies required herein.

**7-3.5 Policy Endorsements.**

**7-3.5.1 Commercial General Liability Insurance.**

**7-3.5.1.1 Additional Insured.**

1. You shall provide at your expense policy endorsement written on the current version of the ISO Occurrence form CG 20 10 11 85 or an equivalent form providing coverage at least as broad.
2. To the fullest extent allowed by law e.g., California Insurance Code §11580.04, the policy shall be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured.
3. The additional insured coverage for projects for which the Engineer's Estimate is \$1,000,000 or more shall include liability arising out of:
  - a) Ongoing operations performed by you or on your behalf,
  - b) your products,
  - c) your Work, e.g., your completed operations performed by you or on your behalf, or
  - d) premises owned, leased, controlled, or used by you.
4. The additional insured coverage for projects for which the Engineer's Estimate is less than \$1,000,000 shall include liability arising out of:
  - a) Ongoing operations performed by you or on your behalf,
  - b) your products, or
  - c) premises owned, leased, controlled, or used by you.

**7-3.5.1.2 Primary and Non-Contributory Coverage.** The policy shall be endorsed to provide that the coverage with respect to operations, including the completed operations, if appropriate, of the Named Insured is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives. Further, it shall provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

**7-3.5.1.3 Project General Aggregate Limit.** The policy or policies shall be endorsed to provide a Designated Construction Project General Aggregate Limit that will apply only to the Work. Only claims payments which arise from the Work shall reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit shall be in addition to the aggregate limit provided for the products-completed operations hazard.

**7-3.5.2 Commercial Automobile Liability Insurance.**

**7-3.5.2.1 Additional Insured.** Unless the policy or policies of Commercial Auto Liability Insurance are written on an ISO form CA 00 01 12 90 or a later version of this form or equivalent form providing coverage at least as broad, the policy shall be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured, with respect to liability arising out of automobiles owned, leased, hired or borrowed by you or on your behalf. This endorsement is limited to the obligations permitted by California Insurance Code §11580.04.

**7-3.5.3 Contractors Pollution Liability Insurance Endorsements.**

**7-3.5.3.1 Additional Insured.**

1. The policy or policies shall be endorsed to include as an Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:
  - a) Ongoing operations performed by you or on your behalf,
  - b) your products,
  - c) your work, e.g., your completed operations performed by you or on your behalf, or
  - d) premises owned, leased, controlled, or used by you.

Except that in connection with, collateral to, or affecting any construction contract to which the provisions of subdivision (b) of § 2782 of the California Civil Code apply, this endorsement shall not provide any duty of indemnity coverage for the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives in any case where an agreement to indemnify the City and its respective elected officials, officers, employees, agents, and representatives would be invalid under subdivision (b) of §2782 of the California Civil Code.

2. In any case where a claim or loss encompasses the negligence of the Insured and the active negligence of the City and its respective elected officials, officers, employees, agents, and representatives that are not covered because of

California Insurance Code §11580.04, the insurer's obligation to the City and its respective elected officials, officers, employees, agents, and representatives shall be limited to obligations permitted by California Insurance Code §11580.04.

- 7-3.5.3.2 Primary and Non-Contributory Coverage.** The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.
- 7-3.5.3.3 Severability of Interest.** For Contractors Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and shall provide cross-liability coverage.
- 7-3.5.4.2 Primary and Non-Contributory Coverage.** The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.
- 7-3.5.4.3 Severability of Interest.** For Contractors Hazardous Transporters Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and shall provide cross-liability coverage.
- 7-3.5.5 Builders Risk Endorsements.**
- 7-3.5.5.1 Waiver of Subrogation.** The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from Work performed by the Named Insured for the City.
- 7-3.5.5.2 Builders Risk - Partial Utilization.** If the City desires to occupy or use a portion or portions of the Work prior to Acceptance in accordance with this Contract, the City will notify you and you shall immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies shall not be cancelled or lapse on account of any such partial use or occupancy. You shall obtain the endorsement prior to the City's occupation and use.
- 7-3.6 Deductibles and Self-Insured Retentions.** You shall pay for all deductibles and self-insured retentions. You shall disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided.

**7-3.7**           **Reservation of Rights.** The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer but not required by this Contract.

**7-3.8**           **Notice of Changes to Insurance.** You shall notify the City 30 Days prior to any material change to the policies of insurance provided under this Contract.

**7-3.9**           **Excess Insurance.** Policies providing excess coverage shall follow the form of the primary policy or policies e.g., all endorsements.

**7-3.10**          **Architects and Engineers Professional Insurance (Errors and Omissions Insurance).**

1.       For Contracts with required engineering services (e.g., Design-Build, preparation of engineered Traffic Control Plans (TCP), and etc.) by you, you shall keep or require all of your employees or Subcontractors, who provide professional engineering services under this contract, Professional Liability coverage with a limit of **\$1,000,000** per claim and **\$2,000,000** annual aggregate in full force and effect.
2.       You shall ensure the following:
  - a)       The policy retroactive date is on or before the date of commencement of the Project.
  - b)       The policy will be maintained in force for a period of 3 years after completion of the Project or termination of this Contract, whichever occurs last. You agree that for the time period specified above, there will be no changes or endorsements to the policy that affect the specified coverage.
3.       If professional engineering services are to be provided solely by the Subcontractor, you shall:
  - a)       Certify this to the City in writing and
  - b)       Agree in writing to require the Subcontractor to procure Professional Liability coverage in accordance with the requirements set forth above.

**7-4**            **NOT USED.** To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

**7-4**            **WORKERS' COMPENSATION INSURANCE AND EMPLOYERS LIABILITY INSURANCE.**

1.       In accordance with the provisions of §3700 of the California Labor Code, you shall provide at your expense Workers' Compensation Insurance and Employers Liability Insurance to protect you against all claims under applicable state workers compensation laws. The City, its elected officials, and employees will not be responsible for any claims in law or equity occasioned by your failure to comply with the requirements of this section.

- Limits for this insurance shall be not less than the following:

<u>Workers' Compensation</u>	<u>Statutory Employers Liability</u>
------------------------------	--------------------------------------

Bodily Injury by Accident	\$1,000,000 each accident
Bodily Injury by Disease	\$1,000,000 each employee
Bodily Injury by Disease	\$1,000,000 policy limit

- By signing and returning the Contract you certify that you are aware of the provisions of §3700 of the Labor Code which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code and you shall comply with such provisions before commencing the Work as required by §1861 of the California Labor Code.

**7-4.1 Waiver of Subrogation.** The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from Work performed by the Named Insured for the City.

**7-5 PERMITS, FEES, AND NOTICES.** To the City Supplement, ADD the following:

The City will obtain, at no cost to the Contractor; the following permits:

- Site Development Permit
- CEQA Documents

**7-8.6 Water Pollution Control.** ADD the following:

- Based on a preliminary assessment by the City, the Contract is subject to WPCP.

**ADD:**

**7-16.1.3 Weekly Updates Recipients.**

- Submit a weekly correspondence with updates, traffic control issues and locations, lane closures, and any other pertinent information (with additional contact names given during award process) to the following recipients:

Jason Grani, Senior Engineer, [JGrani@sandiego.gov](mailto:JGrani@sandiego.gov)

Rowaida Jadan, Project Manager, [Rjadan@sandiego.gov](mailto:Rjadan@sandiego.gov)

Resident Engineer, TBA, [XXX@sandiego.gov](mailto:XXX@sandiego.gov)

**7-16.3 Exclusive Community Liaison Services.** To the "WHITEBOOK", ADD the following:

- You shall retain an Exclusive Community Liaison for the Project that shall implement Work in accordance with the specifications described in 7-16.2 "Community Outreach Services" and 7-16.3 "Exclusive Community Liaison Services".

**7-16.4**      **Payment.** The Payment for the Community Outreach Service is included in the various Bid items. The payment for exclusive community liaison is in the lump sum Contract Price.

**7-20**      **ELECTRONIC COMMUNICATION.** To the "WHITEBOOK", ADD the following:

2.      Virtual Project Manager shall be used on this Contract.

**7-21.1**      **General.** To the "WHITEBOOK", item 3, DELETE in its entirety and SUBSTITUTE with the following:

3.      During the construction phase of projects, the minimum waste management reduction goal is 90% of the inert material (a material not subject to decomposition such as concrete, asphalt, brick, rock, block, dirt, metal, glass, and etc.) and 65% of the remaining project waste. You shall provide appropriate documentation, including a Waste Management Form attached as an appendix, and evidence of recycling and reuse of materials to meet the waste reduction goals specified.

**7-21.6**      **Special Project Conditions.** To the "WHITEBOOK", item 1, DELETE in its entirety and SUBSTITUTE with the following:

1.      When removal of sediments and debris from channels and storm drains are required, you shall make a preliminary estimate of the materials that can be diverted to beneficial use. Receipts from disposal, re-use, and recycling options shall indicate that 65% of materials are diverted.

## **SECTION 9 - MEASUREMENT AND PAYMENT**

**9-3.2**      **Partial and Final Payment.** To the "GREENBOOK", paragraph (3), DELETE in its entirety and SUBSTITUTE with the following:

Upon commencement of the Work, an escrow account shall be established in a financial institution chosen by you and approved by the City. Documentation for an escrow payment shall have an escrow agreement signed by you, the City, and the escrow agent. From each progress payment, no less than 5% will be deducted and deposited by the City into the escrow account. Upon completion of the Contract, the City will notify the Escrow agent in writing to release the funds to you. Only the designated representative of the City shall sign the request for the release of Escrow funds.

**ADD:**

**9-3.7**      **Compensation Adjustments for Price Index Fluctuations.** To the "WHITEBOOK" ADD the following:

5.      This Contract is not subject to the provisions of The "WHITEBOOK" for Compensation Adjustments for Price Index Fluctuations for paving asphalt.

## SECTION 10 – GREEN BUILDINGS AND STORM WATER MANAGEMENT

### ADD: 10-3

#### STORM WATER MANAGEMENT DISCHARGE CONTROL.

1. You shall comply with Chapter 4, Article 3, Division 3 of the San Diego Municipal Code, Storm Water Management and Discharge Control, Municipal Storm Water Permit (MS4), California Regional Water Quality Control Board Order No. R9-2013-0001 (amended by R9-2015-0001 and R9-2015-0100), Storm Water Standards Manual, as amended from time to time, and any and all Best Management Practice (BMP) guidelines and pollution elimination requirements as may be established by the Enforcement Official. You warrant and certify that any and all Plans, reports, and specifications prepared for the City in accordance with this agreement shall meet all requirements of the San Diego Municipal Code and Storm Water Standards Manual. You understand that while the City will be reviewing your designs for storm water permit compliance prior to acceptance of Design-Builder's designs, you shall also understand and agree that the City's Storm Water review process and its acceptance of your designs in no way limits the your obligations under this agreement to prepare designs that comply with all requirements of the San Diego Municipal Code and MS4 Permit.
2. You shall complete and update the Storm Water Applicability Checklist (DS-560) to confirm the project's appropriate storm water requirements. For all applicable projects, and to the maximum extent practicable, you shall incorporate and include Source Control and Low Impact Development (LID) design features or Site Design BMPs on the construction plans. Additionally, for Priority Development projects, you shall prepare a Storm Water Quality Management Plan (SWQMP) in accordance with the requirements of the Storm Water Standards Manual. You shall prepare a SWQMP Drainage Management Area Map showing all LID site design, source control and treatment control BMPs, hydromodification management plan facilities, and tabulated calculations. Include sufficient details and cross sections for construction. The Drainage Management Area Map shall be included as part of the construction Plans in addition to the Storm Water Infrastructure cover sheet. A template of the Storm Water Infrastructure cover sheet will be provided by the City.
3. You shall attend the Pre-construction meeting. If applicable, you shall inspect and confirm that the permanent BMP was installed in accordance with the details on the Plans and that the permanent BMP functions meet the requirements of the MS4 Permit. Upon notification by the Engineer, the Design-Builder Engineer of Work shall sign and stamp the Permanent BMP Self Certification on the Plans or the Permanent BMP Self Certification Form (DS-563) prior to final acceptance by the City.
4. For projects requiring soil-disturbance Work such as geotechnical borings, street coring, and potholing as component of the design, you shall complete a Minor Water Pollution Control Plan (DS-570), if applicable.

**SECTION 203 – BITUMINOUS MATERIALS**

**203-3.4.4 Rubber Polymer Modified Slurry (RPMS).** To the “WHITEBOOK”, ADD the following:

1. RPMS shall be used on this Contract.

**SECTION 209 – PRESSURE PIPE**

**209 PRESSURE PIPE.** To the “WHITEBOOK”, ADD the following:

2. PVC products, specifically type C900 and C905, as manufactured or distributed by J-M Manufacturing Company or JM Eagle shall not be used on the Contract for pressurized pipe.

**SECTION 217 – BEDDING AND BACKFILL MATERIALS**

**217-2.2 Stones, Boulders, and Broken Concrete.** To the “GREENBOOK”, Table 217-2.2, DELETE in its entirety and SUBSTITUTE with the following:

**TABLE 217-2.2**

<b>Zone</b>	<b>Zone Limits</b>	<b>Maximum Size (greatest dimension)</b>	<b>Backfill Requirements in Addition to 217-2.1</b>
Street or Surface Zone	From ground surface to 12" (300 mm) below pavement subgrade or ground surface	2.5" (63 mm)	As required by the Plans or Special Provisions.
Street or Surface Zone Backfill of Tunnels beneath Concrete Flatwork		Sand	Sand equivalent of not less than 30.
Trench Zone	From 12" (300 mm) below pavement subgrade or ground surface to 12" (300 mm) above top of pipe or box	6" (150 mm)	
Deep Trench Zone (Trenches 3' (0.9 m) wide or wider)	From 60" (1.5 m) below finished surface to 12" (300 mm) above top of pipe or box	Rocks up to 12" (300 mm) excavated from trench may be placed as backfill	
Pipe Zone	From 12" (300 mm) above top of pipe or box to 6" (150 mm) below bottom of pipe or box exterior	2.5" (63 mm)	Sand equivalent of not less than 30 or a coefficient of permeability greater than 1-½ inches/hour (35 mm per hour).
Overexcavation	Backfill more than 6" (150 mm) below bottom of pipe or box exterior	6" (150 mm)	Sand equivalent of not less than 30 or a coefficient of permeability greater than 1-½ inches/hour (35 mm per hour). Trench backfill slurry (100-E-100) per 201-1 may also be used.

## SECTION 302 – ROADWAY SURFACING

### ADD:

#### 302-4.12.2.1.1 Slurry Treatment.

When slurry treatment is required by the Contract Documents, notify the Engineer at least 10 Working Days prior to the first application of slurry. The Engineer, upon assessment of street condition and classification, will verify the slurry type to be applied.

Application of sequential layers of slurry shall not commence until approved by the Engineer and until the following have been completed:

Mix design and wet track abrasion testing for the first-step slurry application has been approved by the Engineer. Unless otherwise directed by the Engineer, this testing may require 4 Working Days from field sampling to reporting of test results to the Engineer.

Corrective actions have been executed in accordance with 302-4.11.1.2, "Reduction in Payment Based on WTAT" such as reductions in payment, non-payment, or removal of material not meeting specifications, as directed by the Engineer.

**302-7.4 Payment.** To the "WHITEBOOK", item 1, last sentence, DELETE in its entirety and SUBSTITUTE with the following:

Payment shall not be made for additional fabric for overlapped areas.

## SECTION 304 – METAL FABRICATION AND CONSTRUCTION

**304-5 PAYMENT.** To the "WHITEBOOK", REVISE section "304-5" to "304-6".

## SECTION 800 - MATERIALS

**800-1.2.4 Organic Soil Amendment.** To the "GREENBOOK", ADD the following:

Type 4 organic soil amendment (compost) shall be derived from Green Material (yard waste and/or food waste) that is composted in accordance with California Code of Regulations, Title 14, Chapter 3 Article 7, 17868.3 (15 Day Process to Further Reduce Pathogens and kill weed and other seeds). Incorporated into the soil, compost improves soil texture; increases both nutrient and water holding capacity; and reduces the need for commercial fertilizer. Where applicable, Organic Soil Amendment can qualify as a component of LEED certification.

Type 4 organic soil amendment shall come from a compost facility that tests its compost on a quarterly basis and meets the requirements listed in Table 212-1.2.4 (B). You shall provide a copy of the most recent quarterly test results and a current representative sample of the compost to be used on the project to the City prior to approval and the compost being used.

The City of San Diego's Miramar Greenery produces Type 4 organic soil amendment (compost) and complies with the U.S. Composting Council's Seal of Testing Assurance Program. The Miramar Greenery is located within the City's Miramar Landfill at State Hwy. 52 and Convoy St. in San Diego.

<http://www.sandiego.gov/environmental-services/miramar/greenery>

**Table 800-1.2.4 (B)**

<b>Test Criteria</b>	<b>Acceptable Range</b>	<b>Unit of Measure</b>	<b>TMCC Test Method</b>
pH	6.0 - 8.0		04.11-A 1:5 Slurry pH
Soluble salts	0 - 10	dS/m (mmhos/cm)	04.10-A 1:5 Slurry Method
Organic Matter	30 - 75%	% dry weight basis	05.07-A Loss-on-ignition Organic Matter Method (LOI)
Stability	≤ 8	mg CO <sub>2</sub> /g OM/day	05.08-B carbon Dioxide Evolution Rate
Maturity	> 80% emergence	average % of control	05.05-A Germination and vigor
Pathogens			
Fecal coliform	Pass	Pass/Fail per U.S. EPA Class A standard, 40CFR 503.32(a)	07.01-B Fecal coliforms
Salmonella	Pass	Pass/Fail per U.S. EPA Class A standard, 40CFR 503.32(a)	07.02 Salmonella
Heavy Metal	Pass	Pass/Fail per U.S. EPA Class A standard, 40CFR 503.13(a) Tables 1 and 3.	04.06-Heavy Metals standards, and Hazardous Elements.
Particle Size	≥ 90%	% dry weight passing through 11mm	02.02-B Sample Sieving for Aggregate Size Classification

**800-1.2.5 Mulch.** To the “WHITEBOOK”, item 3, subsection “i”, ADD the following:

**Type 9 Mulch** shall be 2 or 4 inches maximum in size.

**ADD:**

**800-4**

**BIORETENTION SOIL MEDIA (BSM).**

**800-4.1**

**General.** Bioretention Soil Media (BSM) is a formulated soil mixture that is intended to filter storm water and support plant growth while minimizing the leaching of chemicals found in the BSM itself. BSM consists of 70% to 85% by volume washed sand and 15% to 30% by volume compost or alternative organic amendment. Alternative proportions may be justified under certain conditions. BSM shall be mixed thoroughly using a mechanical mixing system at the plant site prior to delivery. In order to reduce the potential for leaching of nutrients, the proportion of compost or alternative organic amendment shall be held to a minimum level that will support the proposed vegetation in the system.

**800-4.1.1**

**Sand for Bioretention Soil Media.** The sand shall conform to ASTM C33 “fine aggregate concrete sand” requirements. A sieve analysis shall be performed in accordance with ASTM C 136, ASTM D 422, or approved equivalent method to demonstrate compliance with the gradation limits shown in Table 800-4.1.1 (A). The sand shall be thoroughly washed to remove fines, dust, and deleterious materials prior to delivery. Fines passing the No. 200 sieve shall be non-plastic.

**Table 800-4.1.1 (A) Sand Gradation Limits**

Sieve Size (ASTM D422)	Percent Passing (by weight)	
	Minimum	Maximum
3/8 inch	100	100
#4	95	100
#8	80	100
#16	50	85
#30	25	60
#50	5	30
#100	0	10
#200	0	5

Note: Coefficient of Uniformity (Cu = D60/D10) equal to or greater than 4

**800-4.1.2**

**Compost.** Compost shall be certified by the U.S. Composting Council’s Seal of Testing Assurance Program or an approved equivalent program. Compost shall comply with the following requirements:

1. Organic Material Content shall be 35% to 75% by dry weight.
2. Carbon to nitrogen (C:N) ratio shall be between 15:1 and 40:1, preferably above 20:1 to reduce the potential for nitrogen leaching/washout.
3. Physical contaminants (manmade inert materials) shall not exceed 1% by dry weight.
4. pH shall be between 6.0 and 7.5.
5. Soluble Salt Concentration shall be less than 10 dS/m (Method TMECC 4.10-A, USDA and U.S. Composting Council).
6. Maturity (seed emergence and seedling vigor) shall be greater than 80% relative to positive control (Method TMECC 5.05-A, USDA and U.S. Composting Council)
7. Stability (Carbon Dioxide evolution rate) shall be less than 2.5 mg CO<sub>2</sub>-C per g compost organic matter (OM) per day or less than 5 mg CO<sub>2</sub>-C per g compost carbon per day, whichever unit is reported. (Method TMECC 5.08-B, USDA and U.S. Composting Council). Alternatively a Solvita rating of 6 or higher is acceptable.
8. Moisture shall be 25%-55% wet weight basis.
9. Select Pathogens shall pass US EPA Class A standard, 40 CFR Section 503.32(a).
10. Trace Metals shall pass US EPA Class A standard, 40 CFR Section 503.13, Tables 1 and 3.
11. Shall be within gradation limits in Table 800-4.1.2 (ASTM D 422 sieve analysis or approved equivalent).

**Table 800-4.1.2 Compost Gradation Limits**

<b>Sieve Size</b>	<b>Percent Passing (by weight)</b>
16 mm (5/8")	99 to 100
6.3 mm (1/4")	40 to 95
2 mm	40 to 90

**800-4.1.3 Alternative Mix Components and Proportions.** Alternative mix components and proportions may be utilized, provided that the whole blended mix (800-4.2) conforms to agricultural, chemical, and hydraulic suitability criteria, as applicable. Alternative mix designs may include alternative proportions, alternative organic amendments and/or the use of natural soils. Alternative mixes are subject to approval by the Resident Engineer.

Additional mix components, such as granular activated carbon, zeolite, and biochar may be considered to improve performance for other parameters.

**800-4.2 Whole BSM Testing Requirements and Criteria.** You shall submit the following information to the Resident Engineer at least 30 Days prior to ordering materials:

1. Source/supplier of BSM,
2. Location of source/supplier,
3. A physical sample,
4. Available supplier testing information,
5. Whole BSM test results from a third party independent laboratory,
6. Description of proposed methods and schedule for mixing, delivery, and placement of BSM.

Test results shall be no older than 120 Days and shall accurately represent the materials and feed stocks that are currently available from the supplier.

Test results shall demonstrate conformance to agricultural suitability criteria (800-4.2.1), chemical suitability criteria (800-4.2.2), and hydraulic suitability criteria (800-4.2.3). No delivery, placement, or planting of BSM shall begin until test results confirm the suitability of the BSM. You shall submit a written request for approval which shall be accompanied by written analysis results from a written report of a testing agency. The testing agency shall be registered by the State for agricultural soil evaluation which indicates compliance stating that the tested material proposed source complies with these specifications.

**800-4.2.1 BSM Agricultural Suitability.** The BSM shall be suitable to sustain the growth of the plants specified and shall conform to the following requirements:

1. pH shall be between 6.0-7.5.
2. Salinity shall be less than 3.0 millimho/cm (as measured by electrical conductivity).
3. Sodium adsorption ration (SAR) shall be less than 3.0.
4. Chloride shall be less than 150 ppm.

The test results shall show the following information:

1. Date of testing,
2. Project name,
3. The Contractor's name,
4. Source of materials and supplier's name,
5. pH,
6.  $E_c$ ,
7. Total and plant available elements (mg/kg particle concentration): phosphorus, potassium, iron, manganese, zinc, copper, boron, calcium, magnesium, sodium, sulfur, molybdenum, nickel, aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, mercury, selenium, silver, strontium, tin, and vanadium. Plant available concentration shall be assessed based on weak acid extraction(ammonium Bicarbonate/DTPA soil analysis or similar).
8. Soil adsorption ratio,
9. Carbon/nitrogen ratio,
10. Cation exchange capacity,
11. Moisture content,
12. Organic content,
13. An assessment of agricultural suitability based on test results,
14. Recommendations for adding amendments, chemical corrections, or both.

BSM which requires amending to comply with these specifications shall be uniformly blended and tested in its blended state prior to testing and delivery.

**800-4.2.2 BSM Chemical Suitability.** For systems with underdrains, the BSM shall exhibit limited potential for leaching of pollutants that are at levels of concern. Potential for pollutant leaching shall be assessed using either the Saturated Media Extract Method (aka, Saturation Extract) that is commonly performed by agricultural laboratories or the Synthetic Precipitation Leaching Procedure (SPLP) (EPA SW-846, Method 1312). The referenced tests express the criteria in terms of the pollutant concentration in water that is in contact with the media. In areas in which a pollutant or pollutants are associated with a water quality impairment or a TMDL, BSM in systems with underdrains shall conform to the following Saturation Extract or SPLP criteria for applicable pollutant(s):

1. Nitrate < 3 mg/L
2. Phosphorus < 1 mg/L\*
3. Zinc < 0.1 mg/L
4. Copper < 0.025 mg/L
5. Lead < 0.025 mg/L
6. Arsenic < 0.02 mg/L
7. Cadmium < 0.01 mg/L
8. Mercury < 0.01 mg/L
9. Selenium < 0.01 mg/L

Criteria shall be met as stated where a pollutant is associated with a water quality impairment or Total Maximum Daily Load (TMDL) in any downstream receiving water. Criteria may be waived or modified, at the discretion of the Resident Engineer, where a pollutant does not have a nexus to a water quality impairment or TMDL of downstream receiving water(s). Criteria may also be modified at the discretion of the Resident Engineer if the you demonstrate that suitable BSM materials cannot be feasibly sourced within a 50 mile radius of the project site and a good faith effort has been undertaken to investigate available materials.

The chemical suitability criteria listed in this section do not apply to systems without underdrains, unless groundwater is impaired or susceptible to nutrient contamination.

#### **800-4.2.3 BSM Hydraulic Suitability.**

1. The saturated hydraulic conductivity or infiltration rate of the whole BSM shall be measured by one of the following methods:
  - a) Measurement of hydraulic conductivity (USDA Handbook 60, method 34b) (commonly available as part of standard agronomic soil evaluation).
  - b) ASTM D2434 Permeability of Granular Soils (at approximately 85% relative compaction Standard Proctor, ASTM D698).
2. BSM shall conform to hydraulic criteria associated with the BMP design configuration that best applies to the facility where the BSM will be installed.
  - a) **Systems with unrestricted underdrain system (i.e., media control).** For systems with underdrains that are not restricted, the BSM shall have a minimum measured hydraulic conductivity of 8 inches per hour to ensure adequate flow rate through the BMP and longevity of the system.

The BSM should have a maximum measured hydraulic conductivity of no more than 20 inches per hour. BSM with higher measured hydraulic conductivity may be accepted at the discretion of the Resident Engineer. In all cases, an upturned elbow system on the underdrain, measuring 9 to 12 inches above the invert of the underdrain, should be used to control velocities in the underdrain pipe and reduce potential for solid migration through the system.

- b) **Systems with restricted underdrain system (i.e., outlet control).** For systems in which the flowrate of water through the media is controlled via an outlet control device (e.g., orifice or valve) affixed to the outlet of the underdrain system, the hydraulic conductivity of the media should be at least 15 inches per hour and not more than 40 inches per hour. The outlet control device should control the flowrate to between 5 and 12 inches per hour.
- c) **Systems without underdrains.** For systems without underdrains, the BSM shall have a hydraulic conductivity at least 4 times higher than the underlying soil infiltration rate, but shall not exceed 12 inches per hour.

#### **800-4.3**

**Delivery, Storage and Handling.** You shall not deliver or place soils in frozen, wet, or muddy conditions. You shall protect soils and mixes from absorbing excess water and from erosion at all times. You shall not store materials unprotected during large rainfall events (>0.25 inches). If water is introduced into the material while it is stockpiled, you shall allow the material to drain to the acceptance of the Resident Engineer before placement.

BSM shall be thoroughly mixed prior to delivery using mechanical mixing methods such as a drum mixer. BSM shall be lightly compacted and placed in loose lifts approximately 12 inches (300 mm) to ensure reasonable settlement without excessive compaction. Compaction within the BSM area shall not exceed 75 to 85% standard proctor within the designed depth of the BSM. Machinery shall not be used in the bioretention facility to place the BSM. A conveyor or spray system shall be used for media placement in large facilities. Low ground pressure equipment may be authorized for large facilities at the discretion of the Resident Engineer.

Placement methods and BSM quantities shall account for approximately 10% loss of volume due to settling. Planting methods and timing shall account for settling of media without exposing plant root systems.

The Engineer may request up to three double ring infiltrometer tests (ASTM D3385) or approved alternative tests to confirm that the placed material meets applicable hydraulic suitability criteria (800-4.2.3). In the event that the infiltration rate of placed material does not meet applicable criteria, the Resident Engineer may require replacement and/or decompaction of materials.

**800-4.4 Quality Control and Acceptance.** Close adherence to the material quality controls herein are necessary in order to support healthy vegetation, minimize pollutant leaching, and assure sufficient permeability to infiltrate/filter runoff during the life of the facility. Amendments may be included to adjust agronomic properties. Acceptance of the material will be based on test results certified to be representative. Test results shall be conducted no more than 120 Days prior to delivery of the blended BSM to the project site. For projects installing more than 100 cubic yards of BSM, batch-specific tests of the blended mix shall be provided to the Resident Engineer for every 100 cubic yards of BSM along with a site plan showing the placement locations of each BSM batch within the facility.

**800-4.5 Integration with Other Specifications.** This specification includes, is related to, and may depend or have dependency on other specifications, including but not limited to:

1. Plantings and Hydroseed
2. Mulch
3. Aggregate (choking stone, drainage stone, energy dissipation)
4. Geotextiles
5. Underdrains
6. Outlet control structures
7. Excavation

Execution of this specification requires review and understanding of related specifications. Where conflicts with other specifications exist or appear to exist, you shall consult with the Resident Engineer to determine which specifications prevail.

**800-4.6 Aggregate Materials For Bsm Drainage Layers.**

**800-4.6.1 Drainage of BSM.** Drainage of BSM requires the use of specific aggregate materials for filter course (aka choking layer) materials and for an underlying drainage and storage layer.

**800-4.6.1.1 Rock and Sand Products for Use in BSM Drainage.** Size classifications detailed in Tables 800-4.6.1 (A) and 800-4.6.1 (B) shall apply with respect to BSM drainage materials. All sand and stone products used in BSM drainage layers shall be clean and thoroughly washed.

**Table 800-4.6.1 (A) Crushed Rock and Stone Gradation Limits**

Sieve Size	Percent Passing Sieves	
	AASHTO No. 57 <sup>(1)</sup>	ASTM No. 8 <sup>(1)</sup>
3 in	-	-
2.5 in	-	-
2 in	-	-
1.5 in	100	-
1 in	95 - 100	-
0.75 in	-	-
0.5 in	25 - 60	100
0.375 in	-	85 - 100
No. 4	10 max.	10 - 30
No. 8	5 max.	0 - 10
No. 16		0 - 5
No. 50		-

**Table 800-4.6.1 (B) Sand Gradation Limits**

Sieve Size	Percent Passing Sieves
	Choker Sand - ASTM C33
0.375 in	100
No. 4	95 – 100
No. 8	80 – 100
No. 16	50 – 85
No. 30	25 – 60
No. 50	5 – 30
No. 100	0 – 10
No. 200	0 – 3

**800-4.6.1.2 Graded Aggregate Choker Stone.** Graded aggregate choker material is installed as a filter course to separate BSM from the drainage rock reservoir layer. This ensures that no migration of sand or other fines occurs. The filter course consists of two layers of choking material increasing in particle size. The top layer of the filter course shall be constructed of thoroughly washed ASTM C33 fine aggregate sand material conforming to gradation limits contained in Table 212-4.6.1(B). The bottom layer of the filter course shall be constructed of thoroughly washed ASTM No. 8 aggregate material conforming to gradation limits contained in Table 212-4.6.1(A).

**SECTION 802 – NATIVE HABITAT PROTECTION, INSTALLATION, MATENANCE AND MONITORING**

**802-2.1 Project Biologist.** To the “WHITEBOOK”, ADD the following:

5. The Contractor will retain a qualified Project Biologist to perform biological monitoring work for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the Project Biologist.

**802-5**

**PAYMENT.** To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The payment for items of Work described in 802, "NATIVE HABITAT PROTECTION, INSTALLATION, MAINTENANCE, AND MONITORING", shall be included in the following Bid items as applicable **unless specified otherwise** in the Special Provisions, Extended Revegetation Maintenance and Monitoring Contract, or both:
  - a. The payment for the removal and disposal of the existing vegetation, trash, and other objects shall be included in the Bid item six (6) (See Price Proposal Forms).
  - b. The payment for the construction of temporary facilities, such as access routes and fencing, shall be included in the Bid item six (6) (See Price Proposal Forms).
  - c. The payment to complete the soil testing, topsoil preparation, conditioning, preparation of the final grade, installation, and PEP phases shall be included in the lump sum Bid item six (6) (See Price Proposal Forms).
  - d. Revegetation includes the Project Biologist when required, furnishing the required reports, site observations, and bond(s), and shall be included in the lump sum bid item for the "25-Month Revegetation Maintenance and Monitoring Program" or the "60-Month Revegetation Maintenance and Monitoring Program", in the Bid Items nine (9) and ten (10) (See Price Proposal).

**EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP) SECTION A – GENERAL REQUIREMENTS**

- 4.1 Nondiscrimination in Contracting Ordinance.** To the "WHITEBOOK", subsection 4.1.1, paragraph (2), sentence (1), DELETE in its entirety and SUBSTITUTE with the following:

You shall not discriminate on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers.

**END OF SUPPLEMENTARY SPECIAL PROVISIONS (SSP)**

**SUPPLEMENTARY SPECIAL PROVISIONS**  
**APPENDICES**

**APPENDIX A**  
**MITIGATED NEGATIVE DECLARATION (MND)**



THE CITY OF SAN DIEGO

DATE OF NOTICE: April 5, 2017

# PUBLIC NOTICE OF A DRAFT MITIGATED NEGATIVE DECLARATION

## DEVELOPMENT SERVICES DEPARTMENT

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The City of San Diego Development Services Department has prepared a draft Mitigated Negative Declaration Report for the following project and is inviting your comments regarding the adequacy of the document. The draft Mitigated Negative Declaration has been placed on the City of San Diego web-site at <http://www.sandiego.gov/city-clerk/officialdocs/notices/index.shtml> under the "California Environmental Quality Act (CEQA) Notices & Documents" section. **Your comments must be received by May 4, 2017**, to be included in the final document considered by the decision-making authorities. Please send your written comments to the following address: **Chris Tracy, AICP Environmental Planner, City of San Diego Development Services Center, 1222 First Avenue, MS 501, San Diego, CA 92101** or e-mail your comments to [DSDEAS@sandiego.gov](mailto:DSDEAS@sandiego.gov) with the Project Name and Number in the subject line.

### General Project Information:

- Project Name: N. UNIVERSITY FIRE STATION 50 SDP
- Project No. 463835 / SCH No. TBD
- Community Plan Area: UNIVERSITY
- Council District: 1

Project Description: SITE DEVELOPMENT PERMIT (CIP-2) for the development of a new three story 16,077 sq. ft. fire Station within ESL (Environmentally Sensitive Lands). The project site is located in the University Community Plan area within the City of San Diego. The site is west of Interstate 805 and is located adjacent to the southeast corner of Nobel Drive and Shoreline Drive on City owned land. The project is located within the RS-1-14 Zone, MHPA (Multi-Habitat Planning Area), FAA (Federal Aeronautical Aviation) Part 77 Miramar, Brush Management Zones 1 and 2, Transit Area Overlay and is located within Council District 1. The development footprint of the project would comprise of 0.94 acres. The three-story fire station would accommodate 10 personnel and equipment in order to provide improved emergency response times that meets national standards within the North University City area. The site contains sensitive biological resources as defined under the City's ESL regulations. The project site is located on an undeveloped area currently served by existing public services and utilities. (LEGAL DESCRIPTION: A Portion of Pueblo Lot 1304 of the Pueblo Lands of San Diego, in the City of San Diego, County of San Diego, State of California, According to map thereof made by James Pascoe in 1870, A Copy of which map was filed in the office of San Diego County Recorder, November 14, 1921 and Misc. Map No 36) **The site is not included on any Government Code listing of hazardous waste sites.**

**Applicant:** Jasiah Neff, City of San Diego Public Works - Engineering

**Recommended Finding:** The recommended finding that the project will not have a significant effect on the environment is based on an Initial Study and project revisions/conditions which now mitigate potentially significant environmental impacts in the following area(s) **ARCHEOLOGICAL RESOURCES, BIOLOGICAL RESOURCES, LAND-USE, and PALEONTOLOGICAL RESOURCES.**

**Availability in Alternative Format:** To request this Notice, the draft Mitigated Negative Declaration, Initial Study, and/or supporting documents in alternative format, call the Development Services Department at 619-446-5460 or (800) 735-2929 (TEXT TELEPHONE).

**Additional Information:** For environmental review information, contact Chris Tracy, AICP at (619) 446-5381. The draft Mitigated Negative Declaration and supporting documents may be reviewed, or purchased for the cost of reproduction, at the Fifth floor of the Development Services Center. If you are interested in obtaining additional copies of either a Compact Disk (CD), a hard-copy of the draft Mitigated Negative Declaration, or the separately bound technical appendices, they can be purchased for an additional cost. **For information regarding public meetings/hearings on this project, contact Helene Deisher at (619) 446-5223.** This notice was published in the SAN DIEGO DAILY TRANSCRIPT and distributed on **April 5, 2017.**

SAP No.: S-13021.02.06

Kerry Santoro  
Deputy Director  
Development Services Department

# MITIGATED NEGATIVE DECLARATION

Project No. 463835  
SCH No. TBD

SUBJECT: **N. UNIVERSITY FIRE STATION NO. 50 SDP**

- I. PROJECT DESCRIPTION: See attached Initial Study.
- II. ENVIRONMENTAL SETTING: See attached Initial Study.
- III. DETERMINATION:

The City of San Diego conducted an Initial Study which determined that the proposed project could have a significant environmental effect in the following area(s): **HISTORICAL RESOURCES (ARCHAEOLOGY), PALEONTOLOGICAL RESOURCES, BIOLOGICAL RESOURCES AND LAND USE**. Subsequent revisions in the project proposal create the specific mitigation identified in Section V of this Mitigated Negative Declaration. The project as revised now avoids or mitigates the potentially significant environmental effects previously identified, and the preparation of an Environmental Impact Report will not be required.

IV. DOCUMENTATION: The attached Initial Study documents the reasons to support the above Determination.

V. MITIGATION, MONITORING AND REPORTING PROGRAM:

**A. GENERAL REQUIREMENTS - PART I**  
**Plan Check Phase (prior to permit issuance)**

1. Prior to the issuance of a Notice To Proceed (NTP) for a subdivision, or any construction permits, such as Demolition, Grading or Building, or beginning any construction related activity on-site, the Development Services Department (DSD) Director's Environmental Designee (ED) shall review and approve all Construction Documents (CD), (plans, specification, details, etc.) to ensure the MMRP requirements are incorporated into the design.

2. In addition, the ED shall verify that the MMRP Conditions/Notes that apply ONLY to the construction phases of this project are included VERBATIM, under the heading, "ENVIRONMENTAL/MITIGATION REQUIREMENTS."

3. These notes must be shown within the first three (3) sheets of the construction documents in the format specified for engineering construction document templates as shown on the City website:

<http://www.sandiego.gov/development-services/industry/standtemp.shtml>

4. The **TITLE INDEX SHEET** must also show on which pages the “Environmental/Mitigation Requirements” notes are provided.

5. **SURETY AND COST RECOVERY** – The Development Services Director or City Manager may require appropriate surety instruments or bonds from private Permit Holders to ensure the long term performance or implementation of required mitigation measures or programs. The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.

**B. GENERAL REQUIREMENTS – PART II**  
**Post Plan Check (After permit issuance/Prior to start of construction)**

**1. PRE CONSTRUCTION MEETING IS REQUIRED TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.** The PERMIT HOLDER/OWNER is responsible to arrange and perform this meeting by contacting the CITY RESIDENT ENGINEER (RE) of the Field Engineering Division and City staff from MITIGATION MONITORING COORDINATION (MMC). Attendees must also include the Permit holder’s Representative(s), Job Site Superintendent and the following consultants:

***Qualified Biologist or Biological Monitor, Qualified Archaeologist, Native American Monitor, Qualified Paleontologist***

**Note:**

**Failure of all responsible Permit Holder’s representatives and consultants to attend shall require an additional meeting with all parties present.**

CONTACT INFORMATION:

a) The PRIMARY POINT OF CONTACT is the **RE** at the **Field Engineering Division – 858-627-3200**

b) For Clarification of ENVIRONMENTAL REQUIREMENTS, it is also required to call **RE and MMC at 858-627-3360**

**2. MMRP COMPLIANCE:** This Project, Project Tracking System (PTS) # 463835 and /or Environmental Document # 463835, shall conform to the mitigation requirements contained in the associated Environmental Document and implemented to the satisfaction of the DSD’s Environmental Designee (MMC) and the City Engineer (RE). The requirements may not be reduced or changed but may be annotated (i.e. to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc.

**Note:**

**Permit Holder’s Representatives must alert RE and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts must be approved by RE and MMC BEFORE the work is performed.**

**3. OTHER AGENCY REQUIREMENTS:** Evidence of compliance with all other agency requirements or permits shall be submitted to the RE and MMC for review and acceptance prior to the beginning of work or within one week of the Permit Holder obtaining documentation of those permits or requirements. Evidence shall include copies of permits, letters of resolution or other documentation issued by the responsible agency.

*None*

**4. MONITORING EXHIBITS**

All consultants are required to submit , to RE and MMC, a monitoring exhibit on a 11x17 reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the specific areas including the **LIMIT OF WORK**, scope of that discipline’s work, and notes indicating when in the construction schedule that work will be performed. When necessary for clarification, a detailed methodology of how the work will be performed shall be included.

**NOTE:**

**Surety and Cost Recovery – When deemed necessary by the Development Services Director or City Manager, additional surety instruments or bonds from the private Permit Holder may be required to ensure the long term performance or implementation of required mitigation measures or programs. The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.**

**5. OTHER SUBMITTALS AND INSPECTIONS:**

The Permit Holder/Owner’s representative shall submit all required documentation, verification letters, and requests for all associated inspections to the RE and MMC for approval per the following schedule:

<b>Table 1 - Document Submittal/Inspection Checklist</b>		
<b>Issue Area</b>	<b>Document Submittal/Task</b>	<b>Associated Inspection/Approvals/Notes</b>
General	Contribution to the City of San Diego Habitat Acquisition Fund (HAF) plus a ten percent (10%) administrative fee.	Prior to the issuance of any Construction Permits
General	Consultant Qualification Letters	Prior to Preconstruction Meeting
General	Consultant Construction Monitoring Exhibits	Prior to or at Preconstruction Meeting
Archaeology	Archeological Reports	Archeology Site Observation
Paleontology	Paleontology Reports	Paleontology Site Observation

Biological Resources	Biological Construction Mitigation/Monitoring Exhibit (BCME)	Approval by MMC
Biological Resources	Avian Protection - Pre-construction survey	Within 10 Calendar Days prior to the start of construction activities (including removal of vegetation)
Biological Resources	Limit of Work Verification Letter	Prior to Construction Activities
Biological Resources	Resource Delineation	Prior to Construction Activities
Biological Resources	Education	Prior to commencement of Construction Activities
Biological Resources	Consultant Site Visit Record (CSVr)	Monitoring During Construction
Biological Resources	Final BCME/Report	Within 30 days of Construction Completion
Revegetation	Est. - MMC inspection	Prior to starting work
Revegetation	Est. - Qualitative Inspection - MMC	Bi-weekly for first month; monthly thereafter
Revegetation	Year 1 - Qualitative Inspection - MMC	Monthly for first 3 Months; quarterly thereafter
Revegetation	Year 2 - Qualitative Inspection - MMC	Quarterly
Revegetation	Year 3 - Qualitative Inspection - MMC	Quarterly
Revegetation	Year 4 - Qualitative Inspection - MMC	Quarterly
Revegetation	Year 5 - Qualitative Inspection - MMC	Quarterly
Revegetation	Year 1 - Quantitative Inspection - MMC	Once During Spring Season
Revegetation	Year 2 - Quantitative Inspection - MMC	Once During Spring Season
Revegetation	Year 3 - Quantitative Inspection - MMC	Once During Spring Season
Revegetation	Year 4 - Quantitative Inspection - MMC	Once During Spring Season
Revegetation	Year 5 - Quantitative Inspection - MMC	Once During Spring Season
Revegetation	Est. - Weed Control	Monthly or as Needed
Revegetation	Year 1 - Weed Control	Quarterly or as Needed

Revegetation	Year 2 - Weed Control	Quarterly
Revegetation	Year 3 - Weed Control	Quarterly
Revegetation	Year 4 - Weed Control	Quarterly
Revegetation	Year 5 - Weed Control	Once
Revegetation	Est. - Horticulture Treatment	As Needed
Revegetation	Year 1 - Horticulture Treatment	As Needed
Revegetation	Year 2 - Horticulture Treatment	As Needed
Revegetation	Year 3 - Horticulture Treatment	As Needed
Revegetation	Est. - Erosion Control	As Needed
Revegetation	Est. - Trash Removal	Monthly or as Needed
Revegetation	Year 1 - Trash Removal	Quarterly or as Needed
Revegetation	Year 2 - Trash Removal	Quarterly
Revegetation	Year 3 - Trash Removal	Quarterly
Revegetation	Year 4 - Trash Removal	Quarterly
Revegetation	Year 5 - Trash Removal	Quarterly
Revegetation	Est. - Replacement Planting and Seeding	As Needed
Revegetation	Year 1 - Replacement Planting and Seeding	Fall
Revegetation	Year 2 - Replacement Planting and Seeding	Fall
Revegetation	Est. - Site Protection and Signage	As Needed
Revegetation	Year 1 - Site Protection and Signage	As Needed
Revegetation	Year 2 - Site Protection and Signage	As Needed
Revegetation	Year 3 - Site Protection and Signage	As Needed
Revegetation	Year 4 - Site Protection and Signage	As Needed
Revegetation	Year 5 - Site Protection and Signage	As Needed
Revegetation	Est. - Vandalism	As Needed
Revegetation	Year 1 - Vandalism	As Needed
Revegetation	Year 2 - Vandalism	As Needed
Revegetation	Year 3 - Vandalism	As Needed
Revegetation	Year 4 - Vandalism	As Needed
Revegetation	Year 5 - Vandalism	As Needed
Revegetation	Est. Irrigation Maintenance	As Needed – Directed by Project Biologist/Maint. By City
Revegetation	Year 1 - Irrigation Maintenance	As Needed – Directed by Project Biologist/Maint. By City
Revegetation	Year 2 - Irrigation Maintenance	As Needed – Directed by Project Biologist/Maint. By City
Final inspection	Request for Final inspection	1 week after request

Bond Release	Request for a Bond Release Letter	Final MMRP Inspections Prior to Bond Release Letter
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**C. SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS**

**HISTORICAL RESOURCES (ARCHAEOLOGY)**

**I. Prior to Permit Issuance or Bid Opening/Bid Award**

A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

B. Letters of Qualification have been submitted to ADD

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the HRG.
3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

**II. Prior to Start of Construction**

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
3. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.
  - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a

focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)  
The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.
3. Identify Areas to be Monitored  
Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.  
The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).  
MMC shall notify the PI that the AME has been approved.
4. When Monitoring Will Occur
  - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
  - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.
5. Approval of AME and Construction Schedule  
After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

### III. During Construction

- A. Monitor Shall be Present During Grading/Excavation/Trenching
  1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.**
  2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.
  3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern

disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.

4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSV). The CSV's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly **(Notification of Monitoring Completion)**, and in the case of ANY discoveries. The RE shall forward copies to MMC.
- B. Discovery Notification Process
1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
  2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
  3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
  4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.
- C. Determination of Significance
1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
    - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
    - b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume.  
**Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**
      - (1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
    - c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.
      - (1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the

discovery should be considered not significant.

- (2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance can not be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting
  - a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
  - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
  - c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.
  - d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

**IV. Discovery of Human Remains**

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

- A. Notification
  1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
  2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.
- B. Isolate discovery site
  1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
  2. The Medical Examiner, in consultation with the PI, will determine the need for a field

- examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.
- C. If Human Remains **ARE** determined to be Native American
1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
  2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
  3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
  4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
  5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
    - a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
    - b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
    - c. To protect these sites, the landowner shall do one or more of the following:
      - (1) Record the site with the NAHC;
      - (2) Record an open space or conservation easement; or
      - (3) Record a document with the County.
    - d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.
- D. If Human Remains are **NOT** Native American
1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
  2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
  3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

## V. Night and/or Weekend Work

- A. If night and/or weekend work is included in the contract
  - 1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
  - 2. The following procedures shall be followed.
    - a. No Discoveries  
In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8AM of the next business day.
    - b. Discoveries  
All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.
    - c. Potentially Significant Discoveries  
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.
    - d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
  - 1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
  - 2. The RE, or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

## VI. Post Construction

- A. Submittal of Draft Monitoring Report
  - 1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. **It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.**
    - a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
    - b. Recording Sites with State of California Department of Parks and Recreation  
The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center

- with the Final Monitoring Report.
  - 2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
  - 3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
  - 4. MMC shall provide written verification to the PI of the approved report.
  - 5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Artifacts
- 1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
  - 2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.
- C. Curation of artifacts: Accession Agreement and Acceptance Verification
- 1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
  - 2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection C.
  - 3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
  - 4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
  - 5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
- 1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
  - 2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

## **PALEONTOLOGICAL RESOURCES**

### **I. Prior to Permit Issuance or Bid Opening/Bid Award**

- A. Entitlements Plan Check
  - 1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Paleontological Monitoring have been noted on the appropriate construction documents.
- B. Letters of Qualification have been submitted to ADD

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the paleontological monitoring program, as defined in the City of San Diego Paleontology Guidelines.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the paleontological monitoring of the project.
3. Prior to the start of work, the applicant shall obtain approval from MMC for any personnel changes associated with the monitoring program.

## **II. Prior to Start of Construction**

### **A. Verification of Records Search**

1. The PI shall provide verification to MMC that a site specific records search has been completed. Verification includes, but is not limited to a copy of a confirmation letter from San Diego Natural History Museum, other institution or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.

### **B. PI Shall Attend Precon Meetings**

1. Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the PI, Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified paleontologist shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Paleontological Monitoring program with the Construction Manager and/or Grading Contractor.
  - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.
2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)  
The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the paleontological monitoring program.
3. Identify Areas to be Monitored
  - a. Prior to the start of any work that requires monitoring, the PI shall submit a Paleontological Monitoring Exhibit (PME) based on the appropriate construction documents (reduced to 11x17) to MMC for approval identifying the areas to be monitored including the delineation of grading/excavation limits. Monitoring shall begin at depths below 10 feet from existing grade or as determined by the PI in consultation with MMC. The determination shall be based on site specific records search data which supports monitoring at depths less than ten feet.
  - b. The PME shall be based on the results of a site specific records search as well as information regarding existing known soil conditions (native or formation).
  - c. MMC shall notify the PI that the PME has been approved.
4. When Monitoring Will Occur
  - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.

- b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as depth of excavation and/or site graded to bedrock, presence or absence of fossil resources, etc., which may reduce or increase the potential for resources to be present.
5. Approval of PME and Construction Schedule  
After approval of the PME by MMC, the PI shall submit to MMC written authorization of the PME and Construction Schedule from the CM.

### III. During Construction

- A. Monitor Shall be Present During Grading/Excavation/Trenching
  1. The monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to mainline, laterals, jacking and receiving pits, services and all other appurtenances associated with underground utilities as identified on the PME that could result in impacts to formations with high and/or moderate resource sensitivity. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the PME.**
  2. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.
  3. The monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.
- B. Discovery Notification Process
  1. In the event of a discovery, the Paleontological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI, as appropriate.
  2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
  3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
- C. Determination of Significance
  1. The PI shall evaluate the significance of the resource.
    - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required. The determination of significance for fossil discoveries shall be at the discretion of the PI.
    - b. If the resource is significant, the PI shall submit a Paleontological Recovery Program (PRP) and obtain written approval of the program from MMC, MC and/or RE. PRP and any mitigation must be approved by MMC, RE and/or CM

before ground disturbing activities in the area of discovery will be allowed to resume.

(1). Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."

c. If resource is not significant (e.g., small pieces of broken common shell fragments or other scattered common fossils) the PI shall notify the RE, or BI as appropriate, that a non-significant discovery has been made. The Paleontologist shall continue to monitor the area without notification to MMC unless a significant resource is encountered.

d. The PI shall submit a letter to MMC indicating that fossil resources will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that no further work is required.

(1). Note: For Pipeline Trenching Projects Only. If the fossil discovery is limited in size, both in length and depth; the information value is limited and there are no unique fossil features associated with the discovery area, then the discovery should be considered not significant.

(2). Note, for Pipeline Trenching Projects Only: If significance can not be determined, the Final Monitoring Report and Site Record shall identify the discovery as Potentially Significant.

**D. Discovery Process for Significant Resources - Pipeline Trenching Projects**

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance.

1. Procedures for documentation, curation and reporting

a. One hundred percent of the fossil resources within the trench alignment and width shall be documented in-situ photographically, drawn in plan view (trench and profiles of side walls), recovered from the trench and photographed after cleaning, then analyzed and curated consistent with Society of Invertebrate Paleontology Standards. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact and so documented.

b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.

c. The PI shall be responsible for recording (on the appropriate forms for the San Diego Natural History Museum) the resource(s) encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines. The forms shall be submitted to the San Diego Natural History Museum and included in the Final Monitoring Report.

d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

**IV. Night and/or Weekend Work**

A. If night and/or weekend work is included in the contract

1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.

- a. No Discoveries  
In the event that no discoveries were encountered during night and/or weekend work, The PI shall record the information on the CSV and submit to MMC via the RE via fax by 8AM on the next business day.
  - b. Discoveries  
All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction.
  - c. Potentially Significant Discoveries  
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction shall be followed.
  - d. The PI shall immediately contact the RE and MMC, or by 8AM on the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
    - 1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
    - 2. The RE, or BI, as appropriate, shall notify MMC immediately.
  - C. All other procedures described above shall apply, as appropriate.

## **V. Post Construction**

- A. Preparation and Submittal of Draft Monitoring Report
  - 1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Paleontological Guidelines which describes the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring,
    - a. For significant paleontological resources encountered during monitoring, the Paleontological Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
    - b. Recording Sites with the San Diego Natural History Museum  
The PI shall be responsible for recording (on the appropriate forms) any significant or potentially significant fossil resources encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines, and submittal of such forms to the San Diego Natural History Museum with the Final Monitoring Report.
  - 2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
  - 3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
  - 4. MMC shall provide written verification to the PI of the approved report.
  - 5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Fossil Remains
  - 1. The PI shall be responsible for ensuring that all fossil remains collected are cleaned and catalogued.
- C. Curation of artifacts: Deed of Gift and Acceptance Verification
  - 1. The PI shall be responsible for ensuring that all fossil remains associated with the monitoring for this project are permanently curated with an appropriate institution.

2. The PI shall submit the Deed of Gift and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
  3. The RE or BI, as appropriate shall obtain signature on the Deed of Gift and shall return to PI with copy submitted to MMC.
  4. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
1. The PI shall submit two copies of the Final Monitoring Report to MMC (even if negative), within 90 days after notification from MMC of the approved report.
  2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

## **BIOLOGICAL RESOURCE PROTECTION DURING CONSTRUCTION**

### **I. Prior to Construction**

- A. **Biologist Verification** - The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist) as defined in the City of San Diego's Biological Guidelines (2012), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.
- B. **Preconstruction Meeting** - The Qualified Biologist shall attend the preconstruction meeting, discuss the project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or revegetation, and additional fauna/flora surveys/salvage.
- C. **Biological Documents** - The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands Ordinance (ESL), project permit conditions; California Environmental Quality Act (CEQA); endangered species acts (ESAs); and/or other local, state or federal requirements.
- D. **BCME** -The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes the biological documents in C above. In addition, include: restoration/revegetation plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/ barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City ADD/MMC. The BCME shall include a site plan, written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.

- E. **Avian Protection Requirements** - To avoid any direct impacts to raptors and/or any native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City DSD for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable State and Federal Law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's MMC Section and Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.
  
- F. **Resource Delineation** - Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site.
  
- G. **Education** -Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

## II. During Construction

- A. **Monitoring**- All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSV). The CSV shall be e-mailed to MMC on the 1<sup>st</sup> day of monitoring, the 1<sup>st</sup> week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.

- B. **Subsequent Resource Identification** - The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (e.g., flag plant specimens for avoidance during access, etc). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the Qualified Biologist.

**III. Post Construction Measures**

- A. In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City Biology Guidelines, ESL and MSCP, State CEQA, and other applicable local, state and federal law. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City ADD/MMC within 30 days of construction completion.

**MITIGATION FOR IMPACTS TO VEGETATION/ LAND COVER TYPES**

Table 2 Mitigation For Impacts to Vegetation Communities/Land Cover Types						
Vegetation Community	City of San Diego Tier	Impacts			Mitigation	Total Mitigation
		Impact Location	Impacts	Mitigation Ratio <sup>1</sup>		
Valley needlegrass grassland	I	Inside MHPA, Outside Mit. Parcel	0.12	3:1 <sup>2</sup>	0.36	0.367
		Inside MHPA, Inside Mit. Parcel	<0.01 (76 sf)	4:1 <sup>3</sup>	0.007 (304 sf)	
Diegan coastal sage scrub	II	Inside MHPA, Outside Mit. Parcel	0.16	1:1	0.16	0.21
		Inside MHPA, Inside Mit. Parcel	0.01	2:1 <sup>3</sup>	0.02	
		Outside MHPA	0.03	1:1	0.03	
Disturbed Diegan coastal sage scrub	II	Inside MHPA, Outside Mit. Parcel	0.02	1:1	0.02	0.04
		Outside MHPA	0.02	1:1	0.02	

Non-native grassland	IIIB	Inside MHPA, Outside Mit. Parcel	0.11	1:1	0.11	
		Outside MHPA	0.03	0.5:1	0.015	
Total			<b>0.42</b>			<b>0.742</b>
<p>1 Mitigation ratios assume all mitigation will occur within the MHPA.</p> <p>2 Includes 2:1 mitigation ratio for direct impacts, plus 1:1 ratio for cumulative impacts. Cumulative impacts would require mitigation via native grassland creation.</p> <p>3 Includes an additional 1:1 mitigation ratio for impacts to mitigation area. Cumulative impacts require mitigation via native grassland creation.</p>						

### Required Mitigation

Mitigation to offset impacts to sensitive vegetation communities **shall** occur, per **Table 2**, through a combination of the following three options, prior to the issuance of Construction Permits:

- (1) Acquisition and Preservation of Existing Habitat**
- (2) Restoration and Preservation of Degraded Habitat in the Project Vicinity**
- (3) Contribution to The City’s Habitat Acquisition Fund, plus a ten percent (10%) administrative fee.**

Mitigation will be required to comply with the City’s Biological Impacts and Monitoring MMRP Conditions.

The mitigation ratios used to offset impacts to sensitive vegetation communities in this report assume mitigation will occur within the MHPA (Table 2). Impacts within the Mitigation Parcel would need to be replaced as part of the mitigation program for the proposed project. Thus, these impacted areas would require an additional 1:1 mitigation ratio, on top of that required per the City’s Biology Guidelines (City of San Diego 2012).

### Valley Needlegrass Grassland

Direct impacts to 0.12 acre of valley needlegrass grassland would be considered a significant direct impact as well as a cumulatively significant impact. In addition, all direct impacts to valley needlegrass grassland would occur within the MHPA, less than 0.01 acre (76 square feet) of which would occur within the Mitigation Parcel. The impact would require mitigation (see Table 2), as follows:

- 3:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel), to be met with native grassland creation or restoration in the project vicinity,
- 4:1 mitigation ratio for impacts to the Mitigation Parcel, to be met with native grassland creation or restoration in the project vicinity.

Thus, impacts within the Mitigation Parcel would require mitigation at a total 4:1 ratio, while impacts outside the Mitigation Parcel (but still inside the MHPA) would require mitigation at a total 3:1 ratio. In total, the mitigation program will include a total of 0.367 acre of native grassland restoration. These measures would be implemented as described in the native grassland restoration plan (RECON 2016). The restoration areas would be located within areas of non-native vegetation communities (non-native grassland, ornamental plantings, and disturbed land) just east of the proposed fire station (See Project Restoration Plan).

### **Diegan Coastal Sage Scrub**

Impacts to 0.20 acre of Diegan coastal sage scrub, including disturbed Diegan coastal sage scrub, within the MHPA would require mitigation as follows:

- 1:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel).
- 2:1 mitigation ratio for direct impacts within the Mitigation Parcel.
- 1:1 mitigation ratio for impacts outside the MHPA.

Thus, the mitigation program would require a total of 0.25 acre of in-kind preservation (see Table 4).

### **Non-native Grassland**

Impacts to 0.11 acre of non-native grassland within the MHPA would require mitigation as follows:

- 1:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel),
- 0.5:1 mitigation ratio for impacts outside the MHPA.

Therefore, the mitigation program would require a total of 0.125 acre of in-kind preservation.

To the degree feasible, areas of cryptogamic soils should be carefully excavated prior to project grading. Care should be taken to keep the crust intact during excavation, and the salvaged soil should be stored off-site to be used in the native grassland creation and restoration areas.

### **MITIGATION FOR IMPACTS TO WILDLIFE SPECIES**

Mitigation for potential impacts to sensitive wildlife species would include the general mitigation measures during construction. Additionally mitigation for impacted sensitive species would include the following specific measures:

**Belding's Orange-Throated Whiptail:** Direct impacts to Belding's Orange-Throated Whiptail would be offset through the proposed 0.742 acre of habitat-based mitigation.

**Red Diamond Rattlesnake:** Potential impacts to Red Diamond Rattlesnake would be offset with the restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**Coast Horned Lizard:** The project would be required to include measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this species. To accomplish this, during initial landscaping, container plant stock should be inspected by the

project biologist (preferably off-site prior to shipment to the site). The biologist shall reject any plants that show evidence of non-native ants.

**Coastal California Gnatcatcher:** If construction activities are to occur during the breeding season of the coastal California gnatcatcher (March 1 – August 15), the project shall be conditioned to comply with the City's standard Land Use Adjacency Guidelines mitigation monitoring and reporting measures as described below, in order to avoid or reduce potential indirect and construction impacts to this species.

**Southern California Rufous-Crowned Sparrow:** Direct impacts to Southern California Rufous-Crowned Sparrow would be offset with the restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**San Diego Black-Tailed Jackrabbit:** Potential impacts to San Diego Black-Tailed Jackrabbit would be offset with restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**San Diego Desert Woodrat:** Potential impacts to San Diego Desert Woodrat would be offset with restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**Nesting Raptors and Birds:** To avoid impacts to raptors, including Cooper's Hawk, no grading activities shall occur during the raptor breeding season of February 1 through September 15. If construction activities are anticipated to occur during the breeding season, then pre-grading nest surveys should be conducted to determine if raptors are nesting in trees on the site. If active nests are present, appropriate construction setbacks of a minimum of 300 feet would be required until young are completely independent of the nest. If no nesting raptors are detected during the pre-construction survey, no mitigation is required.

#### **MSCP SUBAREA PLAN -LAND USE ADJACENCY GUIDELINES**

Prior to issuance of any construction permit or notice to proceed, DSD/ LDR, and/or MSCP staff shall verify the Applicant has accurately represented the project's design in or on the Construction Documents (CD's/CD's consist of Construction Plan Sets for Private Projects) are in conformance with the associated discretionary permit conditions and Exhibit "A", and also the City's Multi-Species Conservation Program (MSCP) Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines. The applicant shall provide an implementing plan and include references on/in CD's of the following:

- A. **Grading/Land Development/MHPA Boundaries** - MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. DSD Planning and/or MSCP staff shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA. For projects within or adjacent to the MHPA, all manufactured slopes associated with site development shall be included within the development footprint.
- B. **Drainage** - All new and proposed parking lots and developed areas in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant

materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.

- C. **Toxics/Project Staging Areas/Equipment Storage** - Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactful to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall be incorporated into leases on publicly-owned property when applications for renewal occur. Provide a note in/on the CD's that states: "All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact to the MHPA."
- D. **Lighting** - Lighting within or adjacent to the MHPA shall be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740.
- E. **Barriers** - New development within or adjacent to the MHPA shall be required to provide barriers (e.g., non-invasive vegetation; rocks/boulders; 6-foot high, vinyl-coated chain link or equivalent fences/walls; and/or signage) along the MHPA boundaries to direct public access to appropriate locations, reduce domestic animal predation, protect wildlife in the preserve, and provide adequate noise reduction where needed.
- F. **Invasives** - No invasive non-native plant species shall be introduced into areas within or adjacent to the MHPA.

The planting palette for project landscaping will not include any invasive plant species adjacent to the MHPA area that are identified on the Cal-IPC Invasive Plant Inventory Database (Cal-IPC 2016). A list of non-native invasive species observed within the survey area is included below. This list includes species on the Cal-IPC list as well as other species recommended for inclusion by City staff (City of San Diego 2016). Should these or other Cal-IPC listed species occur within the development and landscaped areas within or adjacent to the MHPA, they would be removed or controlled to the degree feasible:

<b>Table 3 Invasive Plant Species</b>	
<b>Species</b>	<b>Cal-IPC Rating</b>
western coastal wattle ( <i>Acacia cyclops</i> )	Not listed
vanilla scented wattle ( <i>Acacia redolens</i> )	Not listed
Australian saltbush ( <i>Atriplex semibaccata</i> )	Moderate
wild oat ( <i>Avena sp.</i> )	Limited
purple falsebrome ( <i>Brachypodium distachyon</i> )	Moderate
black mustard ( <i>Brassica nigra</i> )	Moderate

rippgut grass ( <i>Bromus diandrus</i> )	Moderate
soft chess ( <i>Bromus hordeaceus</i> )	Limited
red brome ( <i>Bromus madritensis ssp. rubens</i> )	High
Italian thistle ( <i>Carduus pycnocephalus</i> )	Moderate
tocalote ( <i>Centaurea melitensis</i> )	Moderate
iceplant ( <i>Delosperma sp.</i> )	Not listed
stinkwort ( <i>Dittrichia graveolens</i> )	Moderate
rattail sixweeks grass ( <i>Festuca myuros</i> )	Moderate
fennel ( <i>Foeniculum vulgare</i> )	High
garland daisy ( <i>Glebionis coronaria</i> )	Moderate
bristly ox-tongue ( <i>Helminthotheca echioides</i> )	Limited
short-pod mustard ( <i>Hirschfeldia incana</i> )	Moderate
horehound ( <i>Marrubium vulgare</i> )	Limited
slender-leaved iceplant ( <i>Mesembryanthemum nodiflorum</i> )	Moderate
radish ( <i>Raphanus sativus</i> )	Limited
curly dock ( <i>Rumex crispus</i> )	Limited
Russian thistle ( <i>Salsola tragus</i> )	Limited
Brazilian pepper tree ( <i>Schinus terebinthifolius</i> )	Limited
Mediterranean schismus ( <i>Schismus barbatus</i> )	Limited
London rocket ( <i>Sisymbrium irio</i> )	Moderate
smilo grass ( <i>Stipa miliacea</i> )	Limited

Any individuals of these species would be removed from the premises during the construction process and would not be included in the landscaping plant palette. Additionally, according to City standards for brush management, Zone 2 will include only native plants.

- G. **Brush Management** - New development adjacent to the MHPA shall be set back from the MHPA to provide required Brush Management Zone 1 area on the building pad outside of the MHPA. Zone 2 may be located within the MHPA provided the Zone 2 management will be the responsibility of an HOA or other private entity except where narrow wildlife corridors require it to be located outside of the MHPA. Brush management zones will not be greater in size than currently required by the City's regulations, the amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done and vegetation clearing shall be prohibited within native coastal sage scrub and chaparral habitats from March 1-August 15 except where the City ADD/MMC has documented the thinning would be consist with the City's MSCP Subarea Plan. Existing and approved projects are subject to current requirements of Municipal Code Section 142.0412.
- H. **Noise** - Due to the site's location adjacent to or within the MHPA where the Qualified Biologist has identified potential nesting habitat for listed avian species, construction noise that exceeds the maximum levels allowed shall be avoided during the breeding seasons for the following: California Gnatcatcher (3/1-8/15). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat during the breeding season for the aforementioned listed

species, presence shall be assumed with implementation of noise attenuation and biological monitoring.

When applicable (i.e., habitat is occupied or if presence of the covered species is assumed), adequate noise reduction measures shall be incorporated as follows:

**COASTAL CALIFORNIA GNATCATCHER (Federally Threatened)**

1. Prior to the issuance of any grading permit, the City Manager (or appointed designee) shall verify that the Multi-Habitat Planning Area (MHPA) boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the construction plans:

NO CLEARING, GRUBBING, GRADING, OR OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE CITY MANAGER:

- A. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO CONSTRUCTION NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:
  - I. BETWEEN MARCH 1 AND AUGUST 15, NO CLEARING, GRUBBING, OR GRADING OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND
  - II. BETWEEN MARCH 1 AND AUGUST 15, NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY CONSTRUCTION ACTIVITIES WOULD NOT EXCEED 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

- III. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM CONSTRUCTION ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND THE CONSTRUCTION OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING\* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB (A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

\* Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB (A) hourly average or to the ambient noise level if it already exceeds 60 dB (A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

- B. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:
  - I. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.
  - II. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

The above mitigation monitoring and reporting program will require additional fees and/or deposits to be collected prior to the issuance of building permits, certificates of occupancy and/or final maps to ensure the successful completion of the monitoring program.

VI. PUBLIC REVIEW DISTRIBUTION:

Draft copies or notice of this Mitigated Negative Declaration were distributed to:

FEDERAL GOVERNMENT

US Fish & Wildlife Service (23)  
MCAS Miramar Air Station (13)

STATE OF CALIFORNIA

State Clearinghouse (46)  
California Dept. of Fish & Wildlife (32)

CITY OF SAN DIEGO

Mayor's Office  
Councilmember Lightner - District 1  
City Attorney's Office (93C)

Development Services:

Development Project Manager  
LDR - Engineering Review  
LDR - EAS  
LDR - Geology  
LDR - Landscaping  
LDR - Planning Review  
LDR - Transportation

Misc. Departments:

Parks & Recreation (89)  
Planning - Long Range  
MSCP Reviewer, MS-5A  
MMC, MS-1102B (77A)

P. Works:

Rowaida Jadan  
Delon Jopa  
Peter Fogec  
Jasiah Neff

Real Estate Assets Dept. (85)  
Environmental Services (93A)  
Facilities Financing (93B)  
Water Review (86A)  
Wastewater Review (86B)  
San Diego Central Library (81A)  
University Community Branch Library (81JJ)  
SANDAG (108)  
SD County Regional Airport Authority (110)  
LAFCO (111)  
MTS - Planning (112)

San Diego Gas & Electric Co. (114)  
MTS - Environmental (115)

OTHER ORGANIZATIONS AND INTERESTED PARTIES

Carmen Lucas (206)  
South Coastal Information Center (210)  
San Diego History Center (211)  
San Diego Archaeological Center (212)  
Save Our Heritage Organization (214)  
Ron Christman (215)  
Clint Linton (215B)  
Frank Brown, Inter-Tribal Cultural Resources Council (216)  
Campo Band of Mission Indians (217)  
San Diego County Archaeological Society, Inc. (218)  
Native American Heritage Commission  
Kumeyaay Cultural Heritage Preservation (223)  
Kumeyaay Cultural Repatriation Committee (225)  
Native American Distribution - Public Notice and Location Map Only (225A-S)  
The San Diego River Coalition (164)  
Sierra Club (165)  
Neighborhood Canyon Creek & Park Groups (165A)  
San Diego Natural History Museum (166)  
San Diego Audubon Society (167)  
Mr. Jim Peugh (167A)  
Environmental Health Coalition EHC (169)  
Calif. Native Plant Society (170)  
Wetland Advisory Board (171)  
AECOM Environmental Inc (178)  
EC Allison Research Center (181)  
Endangered Habitats League (182A)  
Vernal Pool Society (185)  
Torrey Pines Association (186)  
San Diego Tracking Team (187)  
Citizens Coordinate For Century 3 (189)  
League of Women Voters (192)  
Chicano Federation (193)  
Community Planners Committee (194)  
Town Council Presidents Assoc. (197)  
University City Community Planning Group (480)  
The Guardian, UCSD (481)  
UCSD Physical & Community Planning (482)  
MCAS Miramar Air Station (484)  
Marian Bear Natural Park Recreation Council (485)  
University City Community Association (486)  
Debby Knight, Friends of Rose Canyon (487)  
Chamber Of Commerce (492)  
Louis Rodolico

Steve Bullard  
Sal Noto

Agent/City Consultants:  
Scott Maas  
Hann Mao

VII. RESULTS OF PUBLIC REVIEW:

- ( ) No comments were received during the public input period.
- ( ) Comments were received but did not address the accuracy or completeness of the draft environmental document. No response is necessary and the letters are incorporated herein.
- ( ) Comments addressing the accuracy or completeness of the draft environmental document were received during the public input period. The letters and responses are incorporated herein.

Copies of the draft Mitigated Negative Declaration, the Mitigation, Monitoring and Reporting Program and any Initial Study material are available in the office of the Entitlements Division for review, or for purchase at the cost of reproduction.



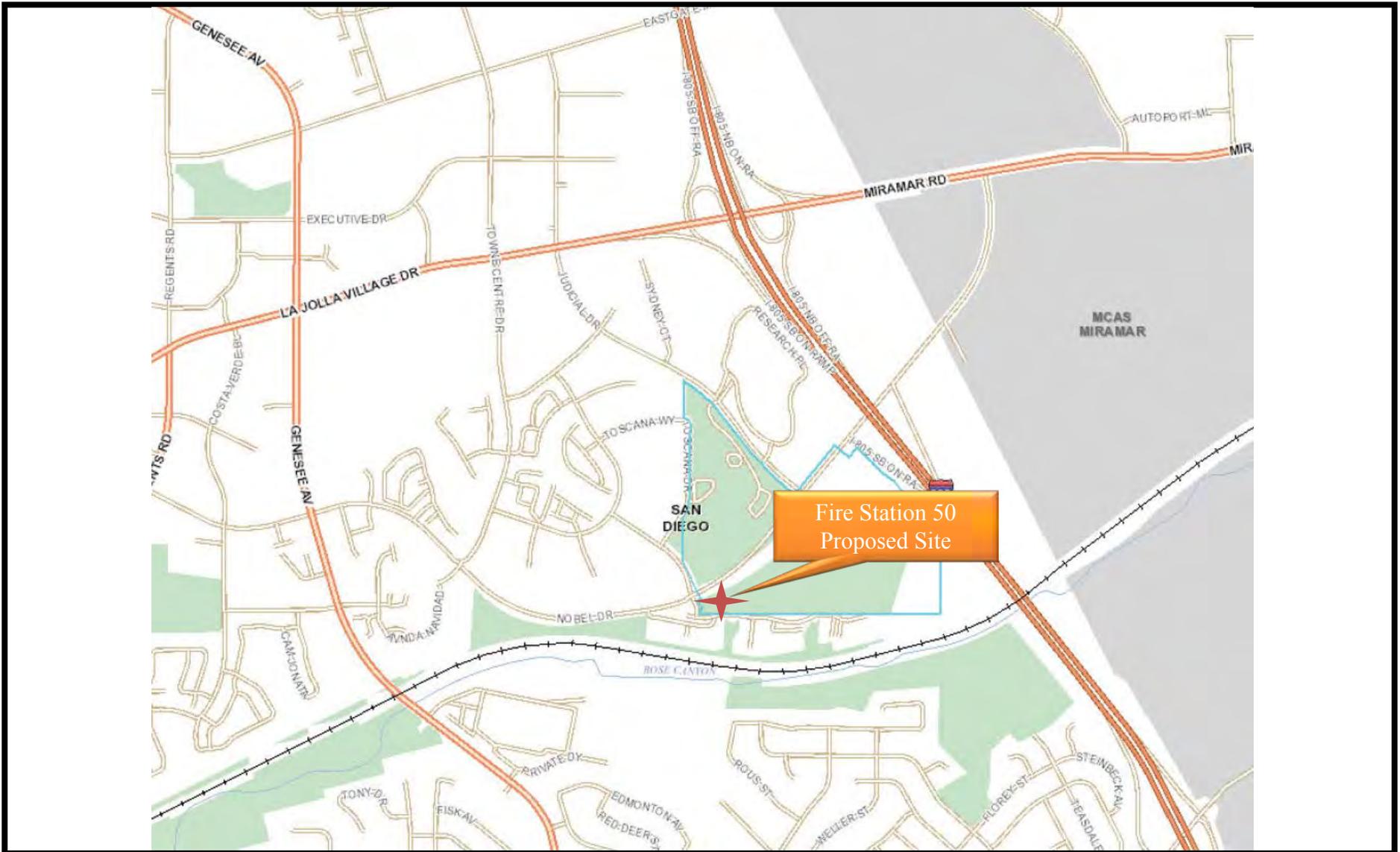
MARK BRUNETTE,  
SENIOR PLANNER  
Development Services Department

4/5/7  
Date of Draft Report

\_\_\_\_\_  
Date of Final Report

Analyst: CHRIS TRACY, AICP ASSOCIATE PLANNER

Attachments: Figure 1 – Vicinity Map  
Figure 2 – Site Plan  
Initial Study Checklist  
Biological Survey Report  
Native Grassland Restoration Plan  
Archaeological Resources Report



## Vicinity Map

N. University Fire Station No. 50 SDP/Project No. 463835 Address: 7544 ½ Toscana Dr  
(Temp. Add.), SE Cnr. of Noble Dr. & Shoreline Dr. (APN: 345-011-24-00), San Diego, CA 92122  
 City of San Diego – Development Services Department

**FIGURE**  
**No. 1**



## INITIAL STUDY CHECKLIST

1. Project title/Project number: N. University Fire Station No. 50 SDP / 463835
2. Lead agency name and address: City of San Diego, 1222 First Avenue, MS-501, San Diego, California 92101
3. Contact person and phone number: Chris Tracy, AICP, Associate Planner / (619) 446-5381
4. Project location: 7544 ½ Toscana Drive (Temporary Address), SE Corner of Noble Drive and Shoreline Drive (APN: 345-011-24-00), San Diego, CA 92122  
0
5. Project Applicant/Sponsor's name and address: Safdie Rabines c/o City of San Diego, 923 Fort Stockton Drive, San Diego, CA 92103
6. General/Community Plan designation: Residential/University Community Plan - Central Subarea – Residential Category #3 (15- 30 dwelling units per acre).
7. Zoning: RS 1-14 (Residential Single-Family)
8. Description of project (Describe the whole action involved, including but not limited to, later phases of the project, and any secondary, support, or off-site features necessary for its implementation.):

SITE DEVELOPMENT PERMIT (CIP-2) for the development of a new three story 16,077 sq. ft. fire Station within ESL (Environmentally Sensitive Lands). The project site is located in the University City Community Plan area within the City of San Diego. The site is west of Interstate 805 and sites adjacent to the southeast corner of Nobel Drive and Shoreline Drive on City owned land. The project is located within the RS-1-14 Zone, MHPA (Multi-Habitat Planning Area), FAA (Federal Aeronautical Aviation) Part 77 Miramar, Brush Management Zones 1 and 2, Transit Area Overlay and is located within Council District 1. The development footprint of the project would comprise of 0.94 acres. The three-story fire station would accommodate 10 personnel and equipment in order to provide improved emergency response times that meets national standards within the North University City area. The site contains sensitive biological resources as defined under the City's ESL regulations. The project site is located on an undeveloped area currently served by existing public services and utilities. The site is not included on any Government Code listing of hazardous waste sites. (LEGAL DESCRIPTION: A

Portion of Pueblo Lot 1304 of the Pueblo Lands of San Diego, in the City of San Diego, County of San Diego, State of California, According to map thereof made by James Pascoe in 1870, A Copy of which map was filed in the office of San Diego County Recorder, November 14, 1921 and Misc. Map No 36)

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

None required.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |                                     |                                    |                                     |                               |                          |                                 |
|-------------------------------------|------------------------------------|-------------------------------------|-------------------------------|--------------------------|---------------------------------|
| <input type="checkbox"/>            | Aesthetics                         | <input type="checkbox"/>            | Greenhouse Gas Emissions      | <input type="checkbox"/> | Population/Housing              |
| <input type="checkbox"/>            | Agriculture and Forestry Resources | <input type="checkbox"/>            | Hazards & Hazardous Materials | <input type="checkbox"/> | Public Services                 |
| <input type="checkbox"/>            | Air Quality                        | <input type="checkbox"/>            | Hydrology/Water Quality       | <input type="checkbox"/> | Recreation                      |
| <input checked="" type="checkbox"/> | Biological Resources               | <input checked="" type="checkbox"/> | Land Use/Planning             | <input type="checkbox"/> | Transportation/Traffic          |
| <input checked="" type="checkbox"/> | Cultural Resources                 | <input type="checkbox"/>            | Mineral Resources             | <input type="checkbox"/> | Utilities/Service System        |
| <input type="checkbox"/>            | Geology/Soils                      | <input type="checkbox"/>            | Noise                         | <input type="checkbox"/> | Mandatory Findings Significance |

**DETERMINATION:** (To be completed by Lead Agency)

On the basis of this initial evaluation:

- The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required.
- Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or (MITIGATED) NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or (MITIGATED) NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

## EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis.)
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses”, as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or (mitigated) negative declaration. *Section 15063(c)(3)(D)*. In this case, a brief discussion should identify the following:
  - a. Earlier Analysis Used. Identify and state where they are available for review.
  - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c. Mitigation Measures. For effects that are “Less Than Significant With Mitigation Measures Incorporated”, describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
  - a. The significance criteria or threshold, if any, used to evaluate each question; and
  - b. The mitigation measure identified, if any, to reduce the impact to less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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I) AESTHETICS – Would the project:

- a) Have a substantial adverse effect on a scenic vista?

No designated public and/or scenic corridors per the University Community Plan exist on the site. Therefore, the project would not result in a substantial adverse effect. Furthermore the project will incorporate a natural earth-tone color palette, be placed in a depressed graded area below the adjacent street grade, and provide on-site landscaping features which will help provide a visual transition from the adjacent natural open space and sensitive resource area as it relates to the project site. As such, any impacts would be less than significant.

- b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project is situated within a developed residential neighborhood and adjacent open-space area. No identified scenic resources such as trees, rock outcroppings, historic buildings and state scenic highways are located on, near, or adjacent to the project site. Therefore, no impacts would result.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?

The site is currently vacant and is surrounded by existing development to the north, south, and west. Construction of the fire station would be compatible is permitted by the community plan and zoning designation and would not substantially degrade the existing visual character of the neighborhood in a general sense. Furthermore the project will incorporate a natural earth-tone color palette, be placed in a depressed graded area below the adjacent street grade, and provide on-site landscaping features in the rear (native landscaping), which will help provide a visual transition from the adjacent natural open space and sensitive resource area. Therefore, any impacts would be less than significant.

- d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Development of the residential project would comply with City glare regulations. All permanent exterior lighting would be required to comply with City and Land Use Adjacency regulations to reduce potential adverse effects on neighboring properties. In addition, no substantial sources of light would be generated during project construction, as construction activities would occur during daylight hours. The project would also be subject to the City's Outdoor Lighting Regulations per Municipal Code Section 142.0740. As such, any impacts would be less than significant.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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II. AGRICULTURAL AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. – Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project is located within a vacant open-space parcel and is surrounded by residential and open-space uses. The project site does not contain, and is not adjacent to, any lands identified as Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as show on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resource Agency. Therefore, the project would not result in the conversion of such lands to non-agricultural use. No significant impacts would occur, and no mitigation measures are required.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Refer to response to II (a) above. There are no Williamson Act Contract lands on or within the vicinity of the project site. The project is consistent with the existing land use and the underlying zone. The project does not conflict with any agricultural use. No impacts would result.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. No designated forest land or timberland occur onsite. No impacts would result.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Refer to response II (c) above. Additionally, the project would not contribute to the conversion of any forested land to non-forest use, as surrounding land uses are built out residential or designated open-space areas containing native grasslands. No impacts would result.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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No Impact, Refer to II (a) and (c) above.

III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations – Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The San Diego Air Pollution Control District (SDAPCD) and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the San Diego Air Basin (SDAB). The County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis (most recently in 2009). The RAQS outlines the SDAPCD's plans and control measures designed to attain the state air quality standards for ozone (O3). The RAQS relies on information from the California Air Resources Board (CARB) and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in the county, to project future emissions and then determine the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the county as part of the development of their general plans.

The RAQS relies on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the county as part of the development of their general plans. As such, projects that propose development that is consistent with the growth anticipated by local plans would be consistent with the RAQS. However, if a project proposes development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the RAQS and may contribute to a potentially significant cumulative impact on air quality.

The project encompasses the construction of fire station with 10 personal per shift. The project is consistent with the General Plan, University Community Plan, and the underlying Zoning designation for residential development. Therefore, the project would be Consistent at a sub-regional level with the underlying growth forecasts in the RAQS, and would not obstruct implementation of the RAQS. As such, any impacts would be less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Short-term Emissions (Construction)

Project construction activities would potentially generate combustion emissions from on-site heavy duty construction vehicles and motor vehicles transporting the construction crew and necessary construction materials. Exhaust emissions generated by construction activities would generally result from the use of typical construction equipment that may include excavation equipment, forklift, skip loader, and/or dump truck. Variables that factor into the total construction emissions potentially generated include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on or off-site. It is anticipated that construction equipment would be used on-site for four to eight hours a day; however, construction would be short-term and impacts to neighboring uses would be minimal and temporary.

Fugitive dust emissions are generally associated with land clearing and grading operations. Due to the nature and location of the project, construction activities are expected to create minimal fugitive dust, as a result of the disturbance associated with grading. Construction operations would include standard measures as required by the City of San Diego grading permit to reduce potential air quality impacts to less than significant. Therefore, impacts associated with fugitive dust are considered less than significant, and would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Impacts related to short term emissions would be less than significant.

Long-term Emissions (Operational)

Long-term air emission impacts are those associated with stationary sources and mobile sources related to any change caused by a project. The project would produce minimal stationary source emissions. Once construction of the project is complete, long-term air emissions would potentially result from such sources as heating, ventilation, and cooling (HVAC) systems, and other motorized equipment typically associated with a fire station with living quarters. The project is compatible with the surrounding development and is permitted by the community plan and zone designation. Based on the residential land use, project emissions over the long-term are not anticipated to violate any air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

Overall, the project is not expected to generate substantial emissions that would violate any air quality standard or contribute to an existing or projected air quality violation; therefore, impacts would be less than significant.

- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
 

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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As described above in response III (b), construction operations may temporarily increase the emissions of dust and other pollutants. However, construction emissions would be temporary and

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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short-term in duration. Implementation of Best Management Practices (BMP's) would reduce potential impacts related to construction activities to a less than significant level. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standards. Impacts would be less than significant.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Short-term (Construction)

Odors would be generated from vehicles and/or equipment exhaust emissions during construction of the project. Odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment and architectural coatings. Such odors are temporary and generally occur at magnitudes that would not affect a substantial number of people. Therefore, impacts would be less than significant.

Long-term (Operational)

Typical long-term operational characteristics of the project are not associated with the operation of a Fire Station, nor anticipated to generate odors affecting a substantial number of people.

IV. BIOLOGICAL RESOURCES – Would the project:

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

The following is a discussion concerning species as it relates to substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service:

Direct Impacts:

Sensitive Vegetation Communities

Per the North University Fire Station 50 Project Biological Survey Report, "The proposed project would result in permanent impacts to a total of 0.94 acre, including 0.79 acre inside the MHPA (0.02 of which occurs within the Mitigation Parcel) and 0.26 acre outside the MHPA (Table 3 and Figure 8). BMZ 2, which is considered impact-neutral, extends beyond the grading footprint to the south and would occur on 0.30 acre, including 0.25 acre inside the MHPA (including 0.21 acre within the Mitigation Parcel) and 0.05 acre outside the MHPA (see Table 3 and Figure 8). The City Fire Department would be responsible for maintaining BMZ 2 on a regular basis through weed and invasive species control, and selective thinning and pruning of shrubs to reduce fuel load.

Valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland are considered

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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sensitive vegetation communities pursuant to the City's Biology Guidelines. The project would result in direct impacts to 0.50 acre of sensitive vegetation communities.

Therefore, impacts to 0.12 acre of valley needlegrass grassland, 0.24 acre of Diegan coastal sage scrub (including disturbed), and 0.14 acre of non-native grassland would be considered significant and mitigation would be required. Impacts to disturbed land, ornamental plantings, and urban/developed lands would be less than significant as these are not considered sensitive by the City or other resource agencies. Per the City's Significance Determination Thresholds, impacts to valley needlegrass grassland would be considered a significant cumulative impact and would require additional mitigation.

BMZ 2 would extend in several areas beyond the grading footprint and into undeveloped areas. Most of this area lies within existing ornamental vegetation (0.16 acre, including 0.14 acre within the MHPA). However, a portion of the BMZ 2 area would intersect Tiers 1 through IIIB vegetation, including 0.03 acre of valley needlegrass grassland (all within the MHPA including 0.02 acre within the Mitigation Parcel), 0.08 acre of Diegan coastal sage scrub (all within the MHPA including 0.03 acre within the Mitigation Parcel), and 0.04 acre of non-native grassland (all within the MHPA including 0.03 acre within the Mitigation Parcel). Pursuant to the City's Biology Guidelines, effects from BMZ 2 outside the grading footprint are considered impact neutral and would not require mitigation." (Biological Survey Report for the North University Fire Station 50 Project, 2017)

Sensitive Animals

Per the Biological Survey Report, Page 32, "Belding's orange-throated whiptail was observed during surveys and is considered present throughout the Diegan coastal sage scrub, valley needlegrass grassland, and nonnative grassland within the project site. Thus, a total of 0.50 acre of occupied Belding's orange-throated whiptail habitat would be directly impacted (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA). Impacts to Belding's orange-throated whiptail would be considered significant and would require mitigation.

The MSCP conditions for coverage for Belding's orange-throated whiptail require development projects to address edge effects. Unauthorized trails and other signs of frequent human recreational access were present throughout the undeveloped areas within and surrounding the survey area, including within the MHPA. Furthermore, as the site is located along a busy road and across the street from an athletic field, there is currently no barrier to such access. As a fire station with a relatively low level of public access, the proposed project would not increase unauthorized human access into the MHPA, and would include landscaping and other facilities that would deter further access from the fire station itself.

Red diamond rattlesnake is a CDFW species of special concern. It was determined to have moderate potential to occur in Diegan coastal sage scrub, valley needlegrass grassland, and non-native grassland within the project site and survey area. Therefore, potential direct impacts to this species would total of 0.50 acre (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA). This direct impact to suitable red diamond rattlesnake habitat would be considered significant and would require mitigation.

Coast horned lizard is a CDFW species of special concern and an MSCP-covered species. It was not

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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detected within the survey area; however, it was determined to have moderate potential to occur within the coastal sage scrub in the survey area. Therefore potential direct impacts to this species would total 0.24 acre (including 0.19 acre within the MHPA and 0.05 acre outside the MHPA). This direct impact to suitable coast horned lizard habitat would be considered significant and would require mitigation.

The MSCP conditions for coverage for coast horned lizard require projects to include specific measures to maintain native ant species, discourage the Argentine ant (*Linepithema humile*), and protect against detrimental edge effects to this species. Argentine ants were detected on-site within Diegan coastal sage scrub and urban/developed land (see Attachment 2), and their presence will continue to be supported by irrigation associated with the large multi-family residential developments and the athletic field in the area. Even so, project landscaping will consist of native species, which are drought-tolerant and require less irrigation than typical landscaping plants. All container plant stock will be required to be inspected by the project biologist (preferably off-site prior to shipment to the site). The biologist shall reject any plants that show evidence of non-native ants.

Coastal California gnatcatcher was not detected during protocol gnatcatcher surveys conducted in 2015; however, it has moderate potential to occur within the project site. Potential impacts to this species, if present, would be considered significant and would require mitigation.

The MSCP conditions for coverage for the coastal California gnatcatcher require measures to reduce edge effects and minimize disturbance during the nesting period, fire protection measures to reduce the potential for habitat degradation due to unplanned fire, and management measures to maintain or improve habitat quality indulging vegetation structure. No clearing of occupied habitat within the City's MHPAs and within the County's Biological Resource Core Areas may occur between March 1 and August 15. As mentioned above, the proposed project is not expected increase unauthorized human access into the MHPA, and would include landscaping and other facilities that would deter further access from the fire station itself.

Southern California rufous-crowned sparrow was not detected within the project site during directed searches in 2015. Nonetheless, it has moderate potential to occur in the project site. Impacts to this species would be considered significant and would require mitigation.

The MSCP conditions for coverage of southern California rufous-crowned sparrow include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components. As mentioned above, the proposed project is not expected increase unauthorized human access into the MHPA, and would include landscaping and other facilities that would deter further access from the fire station itself.

Cooper's hawk is a CDFW Watch List species and is an MSCP-covered species. It has no potential to nest within the survey area; however, due to the presence of potential nesting trees in Rose Canyon to the south and at the athletic fields to the north, it has high potential to forage in the project site and survey area. Because no nesting is expected, no direct impacts to Cooper's hawk would occur.

The MSCP conditions for coverage for Cooper's hawk include a 300-foot impact avoidance area

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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around active nests, and minimization of disturbance in oak woodlands and oak riparian forests. As discussed in Section 5.4.2, Cooper’s hawks have high potential to occur in trees along Rose Creek approximately 750 feet south of the project site. These trees are relatively far from the project site and separated by an existing apartment complex. As a result, any Cooper’s hawks or other raptors nesting in these trees would not be impacted by the project. Cooper’s hawks have low potential to occur in the landscaping trees within 300 feet of the project site, as these are situated adjacent to an active athletic field along a busy roadway. Thus, project construction is not expected to affect Cooper’s hawks or other nesting raptors.

Western bluebird was observed in the vicinity of the athletic fields over 100 feet from the project site. No suitable habitat for this species occurs within the project site. Therefore no significant impact to western bluebird would occur.

San Diego black-tailed jackrabbit was not detected during surveys; however, this species was determined to have moderate potential to occur in the valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland within the survey area. Therefore, potential direct impacts to this species would total of 0.50 acre (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA). Impacts to San Diego black-tailed jackrabbit would be considered significant and would require mitigation.

San Diego desert woodrat was determined to have low potential to nest but moderate potential to forage in the survey area. Such foraging would likely occur in the valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland within the survey area. Woodrats would be expected to be in their middens (which were not found in the project site and would not be directly impacted) during the day, and any active foraging woodrats would be expected to retreat to the middens during clearing, grading, and grubbing. Thus, San Diego desert woodrat would not be directly impacted by the proposed project, but 0.50 acre (including 0.42 acre within the MHPA and 0.08 acre outside the MHPA) of suitable foraging habitat be impacted. Impacts to San Diego desert woodrat foraging habitat would be considered significant and would require mitigation.

#### 6.1.5.2 General Wildlife

Direct impacts are anticipated to occur to small burrowing mammals and reptiles during grading of the project site. Such species have low mobility and may be expected to retreat to burrows within the grading footprint during construction. Any birds that are not nesting are highly mobile and are expected to avoid being impacted. Impacts to general wildlife are, therefore, considered less than significant and would not require mitigation.

#### 6.1.5.3 Nesting Birds

The proposed project has potential to directly impact nesting and migratory birds nesting covered by the MBTA during vegetation clearing. Species covered by the MBTA that may potentially nest in the project area include (but are not limited to) common sage scrub species such as black phoebe (*Sayornis nigricans semiatra*), western scrub-jay (*Aphelocoma californica*), bushtit (*Psaltriparus minimus minimus*), wrentit (*Chamaea fasciata henshawi*), and California towhee (*Pipilo crissalis*). Direct impacts to nesting migratory birds would be considered significant and require mitigation.”

#### Indirect Impacts:

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Sensitive Animals

Per the North University Fire Station 50 Project Biological Survey Report, Page 32, “6.2.1 Indirect Impacts to Nesting Birds, The proposed project has potential to cause indirect impacts to nesting birds, including Cooper’s hawk (which may nest in large trees to the north of the project site) and migratory bird species within Diegan coastal sage scrub and grassland habitats within the MHPA adjacent to the project site. Such potential indirect impacts could occur due to dust or noise levels generated during project construction and vegetation removal. Impacts to Cooper’s hawk and migratory or nesting birds would be considered significant and require mitigation, including biological monitoring and avoidance of typical nesting periods. Further details are outlined in the Mitigation section (Section 7.0). Protocol coastal California gnatcatcher surveys conducted in 2015 were negative. However, there is suitable habitat within 300 feet of the project site. Therefore there is a moderate potential for this species to be indirectly impacted due to the proposed project. Indirect impacts to coastal California gnatcatcher would be considered significant and would require mitigation.

6.2.2 MHPA

In addition to direct impacts to biological resources both outside and inside the MHPA, the project has potential to cause indirect impacts to biological resources in the MHPA along the eastern and southern boundaries. As stated in the MSCP Section 1.4.3 (City of San Diego 1997), land uses adjacent to the MHPA are to be managed to ensure minimal impacts to the MHPA. The MSCP establishes adjacency guidelines to be addressed on a project by project basis to minimize direct and indirect impacts and maintain the function of the MHPA. A discussion of project actions to reduce impacts within the MHPA is presented in Section 6.4, and Land Use Adjacency Guidelines are specifically addressed in Section 6.4.3.

6.2.3 Applicable Area Specific Management Directives

The MSCP identifies general and specific management directives, which are intended to preclude impacts, particularly those related to urban edge effects which include (but are not limited to) trampling, dumping, vehicular traffic, competition with invasive species (i.e., parasitism or predation from invasive animal species and habitat degradation from introduction of non-native plant species), predation by domestic animals, noise, collecting, recreational activities, and other human intrusion (City of San Diego 1997). The MSCP, Appendix A (1997), also outlines species specific conditions of coverage for all covered species.” (Biological Survey Report for the North University Fire Station 50 Project, 2017).

Environmentally Sensitive Lands

The Fire Station 50 site is within Environmentally Sensitive Lands (ESL) as it relates Sensitive Biological Resources. Appropriate Mitigation Measures are proposed to address all concerns related to ESL as identified in the Biological Survey Report (Biological Survey Report for the North University Fire Station 50 Project, 2017).

Compatibility with the MHPA and MSCP

The proposed project would cause direct impacts to 0.79 acres within the MHPA and indirect impacts to biological resources in the MHPA along the eastern and southern boundaries. The project will also be required to comply with all MSCP Directives. Appropriate Mitigation Measures are

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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proposed to address all concerns related to direct and indirect impacts associated with the project as identified in the Biological Survey Report (Biological Survey Report for the North University Fire Station 50 Project, 2017).

All potential impacts related to the presence of biological resources at the site would be reduced and addressed through the implementation of the Mitigation, Monitoring, and Reporting Program (MMRP), as detailed within Section V of the Mitigated Negative Declaration (MND). With implementation of the monitoring program, potential impacts on resources would be reduced to less than significant.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <p>b) Have a substantial adverse effect on any riparian habitat or other community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Refer to response IV (a) above. The project site is identified with 0.01 of Southern Willow Scrub which is a riparian species. Impacts 0.01 and below are considered de minimus which does not require mitigation. As such, any impacts would be considered less than significant.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <p>c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project site does not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act. No impacts would result. Also refer to response IV (a) above.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <p>d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Per the North University Fire Station 50 Project Biological Survey Report, Page 27, "5.8 Wildlife Movement Corridors Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important, because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive by resource and conservation agencies.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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The survey area is bounded to the north, west, and south by existing roads or developments, but is located at the western edge of a relatively large swath of habitat within the MHPA and has connectivity with the Rose Canyon Open Space to the south. Because the project site is situated at a terminal pocket of this open space area and contains a large proportion of disturbed land, ornamental, and urban/developed land, which are non-sensitive cover types, the site contributes little value to the open space as a whole and virtually no value for wildlife movement.” (Biological Survey Report for the North University Fire Station 50 Project, 2017) Based on this discussion/analysis, any impacts would be less than significant. Also refer to response IV (a) above.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Refer to response IV (a) above. As such, any impacts would be considered less than significant.

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|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Refer to response IV (a) above. The project site is located within the City's Multi-Habitat Planning Area (MHPA). Per the Biological Survey Report, Page 35, "...the proposed project would cause direct impacts to 0.79 acre within the MHPA (including 0.02 acre within the Mitigation Parcel). According to Section II.A.2 and II.B.1 of the City's Biology Guidelines (2012), essential public facilities are allowed to impact up to 30 percent of a parcel. As the project is a fire station that will serve the public interest and provide an essential service to the surrounding community, it qualifies as an essential public facility and is therefore a compatible land use within the MHPA per Section 1.4.1 of the MSCP (City of San Diego 1997), The total project impact represents less than 1 percent to the total lot acreage (92 acres), which is far below the 30 percent allowed for essential public facilities. Because total direct impacts are below this 30 percent threshold, an MHPA boundary line adjustment would not be required” (Biological Survey Report for the North University Fire Station 50 Project, 2017). Based on this discussion/analysis, any impacts would be less than significant.

V. CULTURAL RESOURCES – Would the project:

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

The purpose and intent of the Historical Resources Regulations of the Land Development Code (Chapter 14, Division 3, and Article 2) is to protect, preserve and, where damaged, restore the historical resources of San Diego. The regulations apply to all proposed development within the City of San Diego when historical resources are present on the premises. Before approving discretionary projects, CEQA requires the Lead Agency to identify and examine the significant adverse environmental effects which may result from that project. A project that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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environment (Sections 15064.5(b) and 21084.1). A substantial adverse change is defined as demolition, destruction, relocation, or alteration activities, which would impair historical significance (Sections 15064.5(b)(1)). Any historical resource listed in, or eligible to be listed in the California Register of Historical Resources, including archaeological resources, is considered to be historically or culturally significant.

Archaeological Resources

Many areas of San Diego County, including mesas and the coast, are known for intense and diverse prehistoric occupation and important archaeological resources. The region has been inhabited by various cultural groups spanning 10,000 years or more. The project site is located on the City of San Diego's Historical Resources Sensitivity map. Furthermore, the project site is located within an area of the University Community Planning Area that requires special considerations with respect to the high potential archaeological sensitivity for project grading that could reveal unknown prehistoric resources.

A record search to determine presence or absence of potential resources within the project site was analyzed and discussed within the "Archaeological Resources Report for the North University City Fire Station 50 Project", Page 4 indicated "No cultural material was found within the APE during the survey. A section approximately 12 meters wide along Shoreline Drive was not surveyed due to the thick ornamental vegetation. The visibility in the remainder of the APE varied from 50 to 100 percent ground visibility. Road gravel covered the area immediately east of the ornamental vegetation. Tractor-pushed piles of gravel and naturally-occurring hands-sized cobbles were noted as well (Photograph 1). Handsized cobbles were scattered throughout the APE. Non-native grasses and weeds covered a portion within the central part of the APE. This area contained loosely compacted soils as opposed to the more compact soils downslope in the southeastern portion of the APE where native grasses were (Photograph 2). The southeastern portion of the APE is the only area that appears not to have been disturbed in the past. The remainder of the APE has been disturbed during the construction of Novel Drive and Shoreline Drive. The northern edge has been disturbed and built-up during the construction of Nobel Drive (Photograph 3).

...The cultural resource investigations summarized herein satisfy the study and documentation requirements identified by City of San Diego Development Services staff and are consistent with the goals and policies of the City of San Diego as published in the Land Development Manual. Although no cultural material was identified during the survey, there are a number of resources within a 1-mile radius and therefore there is potential for unknown subsurface cultural resource deposits to occur in the undisturbed area. Because the project requires extensive grading within an area that has not been significantly disturbed, RECON recommends archaeological and Native American monitors during grading" (Archaeological Resources Report for the North University Fire Station 50 Project, San Diego, California, 2017).

Based on the preceding analysis/discussion, there is a potential for the project to impact archaeological resources and mitigation measures related to historical resources (archaeology) is required. All potential impacts related to the presence of archeological resources at the site would be reduced and addressed through the purview of a qualified Native American monitor. Monitoring by this individual would occur at all stages of ground-disturbing activities at the site. Furthermore, a Mitigation, Monitoring, and Reporting Program (MMRP), as detailed within Section V of the Mitigated

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Negative Declaration (MND), would be implemented to address this issue specifically. With implementation of the historical resources monitoring program, potential impacts on historical resources would be reduced to less than significant.

**Built Environment**

Historic property (built environment) surveys are required for properties which are 45 years of age or older and which have integrity of setting, location, design, materials, workmanship, feeling, and association. There are no existing structures on site. As such, no impacts would result.

**AB 52 Consultation**

Assembly Bill 52 (AB 52) requires as part of CEQA, evaluation of tribal cultural resources, notification of tribes, and opportunity for tribes to request a consultation regarding impacts to tribal cultural resources when a project is determined to require a Negative Declaration, Mitigated Negative Declaration or Environmental Impact Report under CEQA. In compliance with AB-52, the City notified all tribes that have previously requested such notification for projects within the City of San Diego. On June 30, 2016 the City of San Diego received a letter of interest from Iipay Nation of Santa Ysabel requesting to engage with the City for the purposes of AB 52. In order to implement AB 52 consultation, the City of San Diego Development Services Department (DSD) and the Iipay Nation of Santa Ysabel engaged in consultation for the project. Through this consultation process, it was determined no additional mitigation measures were needed to address this issue area in addition to what had already been recommended by the Archeological Resources Report for the project which will be incorporated into the Mitigation, Monitoring, and Reporting Program (MMRP).

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

Refer to response V (a) above.

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|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

According to the "Geology of the San Diego Metropolitan Area, California, La Jolla, 7.5 Minute Quadrangle Maps" (Kennedy and Peterson, 1975), the project site is primarily underlain the highly sensitive Scripps Formation. As a guideline dependent on history related to grading, paleontological monitoring may be required if project grading meets or exceeds the City's Thresholds of 2,000 cubic yards to 10 feet in depth.

As detailed within the project description, grading would encompass 4,300 yards of cutting, with a maximum cut depth of 10 feet. The project within its current configuration exceeds these thresholds; therefore, paleontological resource monitoring would be required.

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| d) Disturb and human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

Refer to response V (a) above. Although no known burial sites are known to be on the site, there is a

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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potential for buried archaeological resources, including human remains, to be on-site. Please see Section V of the MND and the Initial Study.

VI. GEOLOGY AND SOILS – Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

<p>i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The project is not located within an Alquist-Priolo Fault Zone. The nearest fault to the project site is the Rose Canyon/Newport-Englewood Fault, located approximately 3 miles west of the site (Geotechnical Evaluation, Proposed Fire Station No. 50, August 18, 2016). Furthermore, the project would be required to comply with seismic requirement of the California Building Code, utilize proper engineering design and utilization of standard construction practices, to be verified at the building permit stage, in order to ensure that potential impacts based on regional geologic hazards would remain less than significant and mitigation is not required.

<p>ii) Strong seismic ground shaking?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The site could be affected by seismic activity as a result of earthquakes on major active faults located throughout the Southern California area. The project would utilize proper engineering design and utilization of standard construction practices, to be verified at the building permit stage, in order to ensure that potential impacts from regional geologic hazards would remain less than significant and mitigation is not required.

<p>iii) Seismic-related ground failure, including liquefaction?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Liquefaction occurs when loose, unconsolidated, water-laden soils are subject to shaking, causing the soils to lose cohesion. Implementation of the project would not result in an increase in the potential for seismic-related ground failure, including liquefaction. Per the Geotechnical Investigative Report provided, “Based on the relatively dense nature of the materials encountered and absence of a shallow groundwater table, it is our opinion that liquefaction and seismically induced settlement at the subject site are not design considerations. (Geotechnical Evaluation, Proposed Fire Station No. 50, August 18, 2016).” Furthermore, the project would utilize proper engineering design and utilization of standard construction practices, to be verified at the building permit stage, in order to ensure that potential impacts from regional geologic hazards would remain less than significant and mitigation is not required.

<p>iv) Landslides?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Per the Geotechnical Investigative Report provided, "...Based on our review of referenced geologic and topographic maps, literature, and stereoscopic aerial photographs, and our subsurface evaluation, large landslides or indications of deep seated landsliding have not been mapped or identified underlying the project site. It should be noted that two shallow landslides were identified in exploratory trenches excavated in the adjacent site to the south (SCT&T, 1984). These landslides were noted to occur within a siltstone section of the Scripps Formation and were relatively shallow in depth (i.e. approximately 3.5 to 7 feet). According to the referenced report, the landslides consisted of a zone of fractures that were associated with out-of-slope bedding and soil creep. The landslide materials were described as soft to stiff. Based on our site reconnaissance and our subsurface elevation, the subject site is underlain by competent materials of Scripps Formation that do not exhibit evidence of similar shallow landsliding, such as fractures and zones of soft clay" (Geotechnical Evaluation, Proposed Fire Station No. 50, 2016). The project would utilize proper engineering design and utilization of standard construction practices, to be verified at the building permit stage, in order to ensure that potential impacts from regional geologic hazards would remain less than significant and mitigation is not required.

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|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Construction of the project would temporarily disturb onsite soils during grading activities, thereby increasing the potential for soil erosion to occur; however, the use of standard erosion control measures during construction would reduce potential impacts to a less than a significant level. Therefore, impacts would be less than significant, and no mitigation measures are required.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

The City of San Diego Seismic Safety Study Maps (1995 Edition, Map 30) have designated the geology at the project location as being within the City of San Diego Geologic Hazard Categories 54 (Other Terrain - steeply sloping terrain, unfavorable or fault controlled geologic structure, moderate risk). However, with the utilization of proper engineering design and utilization of standard construction practices, to be verified at the building permit stage, in order to ensure that potential impacts from regional geologic hazards would remain less than significant and mitigation is not required.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Per the Geotechnical Investigative Report provided, "Onsite fill materials and materials derived from the Scripps Formation are clayey in nature and possess a high potential for expansion. Therefore, these materials are not considered suitable for reuse within the building pad, as defined in the Remedial Grading section, as wall backfill and /or utility trench backfill. Imported select fill materials

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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as defined herein, should be used within these areas” (Geotechnical Evaluation, Proposed Fire Station No. 50, 2016). With the recommendations of this report incorporated a “Project Design” conditions and given the fact the project would utilize proper engineering design and utilization of standard construction practices, to be verified at the building permit stage, potential impacts from regional geologic hazards would remain less than significant and mitigation is not required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Not Applicable, as the project does not propose such structures.

VII. GREENHOUSE GAS EMISSIONS – Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The construction of the project is consistent with the land use and designated zone and would not be expected to have a significant impact related to greenhouse gases.

In December 2015, the City adopted a Climate Action Plan (CAP) that outlines the actions that City will undertake to achieve its proportional share of State greenhouse gas (GHG) emission reductions. The purpose of the Climate Action Plan Consistency Checklist (Checklist) is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).

Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project’s incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

This Checklist is part of the CAP and contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP’s assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Per the Climate Action Plan (CAP) Consistency Checklist, the proposed project will have a less-than-significant impact on the environment, either directly or indirectly, because the proposed project is consistent with the existing General Plan and Community Plan land use and underlying zoning designations. The proposed project is located in residential land use designation and is within the RS-1-14 (Residential Single-Unit) zone and meets the criteria for consistency with the General Plan, Community Plan land use and zoning designations. Furthermore the project will implement the following measures per the submitted Climate Action Plan Consistency Checklist for Fire Station 50:

“CAP Strategy 1. Energy and Water Efficient Buildings

1. Cool/Green Roofs
  - a. The project will use roofing materials with a minimum solar reflection index equal to or greater than the solar reflective index values specified in the voluntary measures of the California Green Building Code.
  
2. Plumbing fixtures & fittings
  - a. Kitchen Faucet – the project will use kitchen faucets that do not exceed a flow rate of 1.5 gallons per minute at 60 PSI.
  - b. Dishwasher – the project will use a standard dishwasher that does not exceed 4.25 gallons per cycle.
  - c. Clothes Washers – the project will use a clothes washer that does not exceed a water factor of 6 gallons per cubic feet of drum capacity.

CAP Strategy 2. Clean & Renewable Energy

3. Energy Performance Standard / Renewable energy
  - a. The project’s electrical plan is designed to have an energy budget that shows a 15% improvement when compared to the Title 24 (2013) Part 6 energy budget for proposed design building as calculated by Compliance software certified by the California energy Commission. The demand reduction may also be provided through onsite renewable energy.

CAP Strategy 3. Bicycle, Walking, Transit & Land Use

4. Electrical vehicle charging
  - a. Listed cabinet to be built with conduit for future connection of electric vehicle supply equipment.
  
5. Bicycle parking spaces.
  - a. The project is zoned RS-1-14 and will serve as a congregate residence to stationed fire

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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fighters. The project will be considered an “Employment Use” in a Residential zone and therefore be classified as non-residential. There will be two parking spaces provided near ramp/walkway entrance on Nobel Dr.

- 6. Shower Facilities.
  - a. Not applicable (not more than 10 tenant occupants). The project is classified as non-residential but is does not have more than 10 tenant occupants (10 occupants) therefor has no requirement for changing/shower facilities. However, there will be 6 full bathrooms provided as part of the programming requirement by the San Diego Fire Department.
- 7. Designated parking spaces
  - a. The project will provide 2 designated parking spaces for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles.
- 8. Transportation demand management program
  - a. Not applicable (not more than 50 tenant occupants)”

(Climate Action Plan (CAP) Consistency Checklist, Fire Station 50 Project, 2017)

With the incorporation of the preceding project design features, impacts from greenhouse gas emissions are considered less than significant, and no mitigation measures are required; however, the improvements as described within the checklist will be addressed within the project’s Condition of Approval.

- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
 

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The project as proposed would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions in that it would be constructed in an established suburban area with services and facilities available. In addition, the project is consistent with the underlying zone and land use designation.

VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:

- a) Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?
 

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The project would result in the construction of a fire station on undeveloped parcel. The project site was not listed in any of the databases for hazardous materials including being listed in the State Water Resources Control Board GeoTracker system, which includes leaking underground fuel tank sites inclusive of spills, leaks, investigations, and cleanups Program or the Department of Toxic

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Substances Control EnviroStor Data Management System, which includes CORTESE sites.

Construction activities for the project would involve the use of potentially hazardous materials including vehicle fuels, oils, transmission fluids, paint, adhesives, surface coatings and other finishing materials, cleaning solvents, and pesticides for landscaping purposes. However, the use of these hazardous materials would be temporary, and all potentially hazardous materials would be stored, used, and disposed of in accordance with manufacturers' specifications, applicable federal, state, and local health and safety regulations. As such, impacts associated with the transport, use, or disposal of hazardous materials would be less than significant during construction.

With regard to operation, the new fire station would include an aboveground fuel storage tank and gas pump, oxygen tanks, and drums of engine oil. All potentially hazardous materials would be handled, used, and stored in accordance with manufacturers' specifications and applicable federal, state, and local health and safety regulations. With adherence to these measures no impacts should result at the operation phase.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Refer to response VIII (a) above.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Please see response VII (a). The project site is within one-quarter mile of a school and the nearest school to the project site is University City High School, which is located approximately 750 feet to the south. Separating the project site and school, lies an existing three-story condominium complex, a canyon, and existing road road tracks with considerable topography. Any impacts will reduce to below a level of significance through the compliance with manufacturers' specifications and applicable federal, state, and local health and safety regulations. A Condition of Approval will address this concern in terms of the construction and operational phases of the project. As such, any impacts would be less than significant.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

A hazardous waste site records search was completed in December 2016 using Geotracker <https://geotracker.waterboards.ca.gov/> The records search showed that no hazardous waste sites

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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exist onsite or in the surrounding area. No impacts would result.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two mile of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Activities associated with the necessary grading and construction would not increase the potential to result in a safety hazard for people residing or working in areas surrounding the project site. Long-term operation of the fire station facility would not interfere with the operations of any airport, specifically MCAS Miramar. Therefore, no significant impacts would occur, and no mitigation measures are required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Refer to response VIII (e) above. The project site is not in proximity to any private airstrip. Therefore, no significant impacts will occur, and no mitigation measures are required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The project would not impair the implementation of, or physically interfere with an adopted emergency response plan or evacuation plan. The proposed project would construct a new fire station that would facilitate and improve emergency access for fire trucks and apparatus. The proposed fire station would include up to new three apparatus bays, with all three being in "pull-through" configuration. With the pull-through bays, fire trucks would enter from the cul-de-sac at Shoreline Drive and Noble Drive, pull-through the building, and exit the project site via a new traffic controlled exit driveway at Nobel Drive. As designed, the proposed project would not have adverse impacts on an emergency response plan or emergency evacuation plan. Rather, the proposed project would result in beneficial impacts on emergency access and response. Impacts would be less than significant.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The Project site is located within the City's Multi-Habitat Preservation Area (MHPA), Brush Management Zones 1 and 2; therefore, a comprehensive Brush Management Plan must be established. Since the full Brush Management Zones cannot be provided entirely on-site, the

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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proposed structures would have to meet alternative compliance measures. Alternative compliance measures are proposed to provide for fire rated walls and all openings shall incorporate dual glazed/dual tempered window panes. Additionally, all proposed landscaping adjoining the site shall not use invasive plant species. Landscaping adjacent to these areas shall use plant species naturally occurring in that area. With the incorporation of these project design features; any impacts would be reduced to a level below significance.

IX. HYDROLOGY AND WATER QUALITY - Would the project:

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

The project would comply with all storm water quality standards during and after construction, and appropriate Best Management Practices (BMP's) will be utilized and provided for on-site. Implementation of these BMP's would preclude any violations of existing standards and discharge regulations. This will be addressed through the project's Conditions of Approval; therefore, impacts would be less than significant, and no mitigation measures are required.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

The project does not require the construction of wells. The project is located within a developed residential neighborhood with existing public water supply infrastructure. The proposed project would generate an incremental increase in water demand. As such, operation of the proposed project would not substantially deplete groundwater supplies. As such, any impacts would be less than significant, and no mitigation measures are required.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

The project would not substantially alter the existing drainage pattern of the site or the area. Streams or rivers do not occur on or adjacent to the site. Although grading is proposed, the project would implement on-site BMPs, therefore ensuring that substantial erosion or siltation on- or off-site would not occur. Impacts would be less than significant, and no mitigation measures are required.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d) Substantially alter the existing drainage pattern of the site or area, including | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

The project would implement low impact development principles ensuring that a substantial increase in the rate or amount of surface runoff resulting in flooding on or off-site, or a substantial alteration to the existing drainage pattern would not occur. Streams or rivers do not occur on or adjacent to the project site. Impacts would be less than significant, and no mitigation measures are required.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

The project would comply with all City storm water quality standards during and after construction. Appropriate BMP's would be implemented to ensure that water quality is not degraded; therefore, ensuring that the project runoff is directed to appropriate onsite drainage systems. Per the "Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) For Fire Station 50":

"In its existing state runoff from the site flows to the south, southwest and southeast, where it is picked up by a storm drain at a headwall along the southerly boundary APN 345-010-03-00 as shown on City of San Diego drawing 22324-11-D. Additional site runoff flows onto Shoreline Drive, westerly and southwesterly of the site and into a curb inlet within that cul-de-sac, shown on the same drawing. A small area of runoff from the site flows onto Nobel Drive and to a curb inlet at the southeast intersection of Nobel Drive and Shoreline Drive, as shown on drawing 29532-21-D. A small area of offsite runoff flows onto the site and is conveyed to Nobel Drive. Following construction the same general pattern of runoff and its collection continues. The impervious surface runoff is conveyed to three flow through planters, where it is treated and detained before being conveyed southerly to the aforementioned storm drain and headwall. The pervious surface runoff will flow to two curb outlets in Shoreline Drive and a portion of the site runoff and offsite runoff conveyed to the site will continue to flow onto Nobel Drive.

Runoff to the public storm drain system will increase by 0.36 cfs total for the entire site (1.94 cfs - 1.58 cfs) with an increase to the drain and headwall southerly of the site of 0.40 cfs. The existing drain was checked for adequacy and found to be capable of conveying the additional runoff. There will be no adverse effect to the public storm drain" (Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) for Fire Station 50, 2016)

As such, any impacts would be less than significant with incorporation of "Project Design" features addressing drainage. As such, no mitigation measures are required.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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The project would comply with all City storm water quality standards during and after construction. Appropriate BMP's would be implemented to ensure that water quality is not degraded. Impacts would be less than significant, and no mitigation measures are required.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project site is not located within a 100-year flood hazard area or any other known flood area. No impacts would result.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| h) Place within a 100-year flood hazard area, structures that would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

See Response (IX) (g). No impacts would result.

X. LAND USE AND PLANNING – Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

The proposed project is located within the Central Subarea of the University Community Plan (UCP) and is designated for Residential use, 15-30 dwelling units per acre. The site is surrounded by residential development to the north, south and west, and open-space to east. The site is subject to the Community Plan Implementation Overlay Zone (CPIOZ) Type 'A' and is located within MCAS Miramar's Area of Influence and the 60-65 Community Noise Equivalent Level (CNEL) contour. Within the UCP, the CPIOZ Type 'A' is the major implementation tool for the Development Intensity Element. The purpose of the overlay zone is to limit uses and development intensity to the levels specified in the Land Use and Development Intensity Table of the UCP. Figure 26 of the Development Intensity Element identifies the site within Subarea 39. Table 3 of the Development Intensity Element further identifies that the development intensity within the subarea not exceed 30 dwelling units per acre of residential use. The Public Facilities Element of the UCP was amended in December 2006 to add language citing the need for additional public safety related facilities (police, fire, and emergency medical response) to assure levels of service standards are attained for existing development and as development occurs. The UCP Public Facilities Element also states the new public safety related facilities should have good vehicular access and be carefully reviewed for environmental, land use and aesthetic impacts. As proposed, the project meets all of the preceding objectives and does not exhibit characteristics in terms of physically dividing an established community. No impacts would result.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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purpose of avoiding or mitigating an environmental effect?

See Response X (a). The project is consistent with the General Plan's and the University Community Plan's Land Use designation. The project site is located within a developed residential neighborhood and surrounded by similar residential development and areas of open-space to the east. The site is located within the City's Multi-Habitat Planning Area (MHPA). The project will impact biological resources indirectly and directly. All potential impacts related to the presence of biological resources at the site would be reduced and addressed through the implementation of the Mitigation, Monitoring, and Reporting Program (MMRP), as detailed within Section V of the Mitigated Negative Declaration (MND). With implementation of the biological resources monitoring program, potential impacts on biological resources would be reduced to less than significant.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

See Response X (a) through (b). All potential impacts related to the presence of biological resources at the site would be reduced and addressed through the implementation of the Mitigation, Monitoring, and Reporting Program (MMRP), as detailed within Section V of the Mitigated Negative Declaration (MND). With implementation of the biological resources monitoring program, potential impacts on biological resources would be reduced to less than significant.

XI. MINERAL RESOURCES – Would the project?

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

There are no known mineral resources located on the project site. The City of San Diego General Plan (Figure CE-6) designates the project site and the surrounding area as Mineral Resource Zone 3 (MRZ-3). MRZ-3 areas are classified as areas containing mineral deposits, the significance of which cannot be evaluated from available data. This project site is located in a developed neighborhood and adjacent to the MHPA which is not suitable for mineral extraction. Additionally, the site has never been used for mineral extraction. Therefore, the project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the state. No impacts would occur.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

See response XI (a) above. The project site has not been delineated on a local general plan, specific plan, or other land use plan as a locally important mineral resource recovery site, and no such resources would be affected with project implementation. Therefore, no significant impacts were

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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identified, and no mitigation measures are required.

XII. NOISE – Would the project result in:

- a) Generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
 

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Per the submitted “Noise Analysis for the North University City Fire Station 50 Project, San Diego, California, 2017.”:

Short Term/Construction

Short-term noise impacts would be associated with onsite grading, and construction activities for the project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area, but would no longer occur once construction is completed. Sensitive receptors (e.g. residential uses) occur in the immediate area and may be temporarily affected by construction noise; however, construction activities would be required to comply with the construction hours specified in the City's Municipal Code (Section 59.5.0404, Construction Noise), which are intended to reduce potential adverse effects resulting from construction noise.

Long Term/Operational

Emergency Response Sirens

The project is anticipated have an average of 11 responses (22 trips) per day. The primary source of noise associated with fire engines and ambulances are sirens. Sirens are assumed to be active during outbound trips and inactive during return trips. Thus, on average 11 outbound trips with active sirens would happen each day. While active, sirens typically generate noise levels of 120 dB(A) at 10 feet. Fire engines were assumed to travel in the left most during emergency responses.

The noise-sensitive receivers nearest to the outbound driveway of the station are apartments in the Lucera Apartments at UTC complex. These receivers are approximately 370 feet southeast of the driveway. During emergency responses and equipment testing, sirens may expose these receivers to instantaneous exterior noise levels of up to 89 dB(A) Lmax. Accounting for the duration of it takes emergency vehicles to leave the fire station, this would result in noise levels of 63 dB(A) Leq.

On average, emergency responses would include 7 outbound trips traveling west on Nobel Drive, 3 outbound trips traveling east on Nobel Drive, and 1 outbound trip traveling north on Shoreline Drive. Eastbound emergency vehicles would not pass noise-sensitive receivers. Westbound and northbound emergency vehicles would pass within 65 and 100 feet of residences in the Capri at Renaissance La Jolla condominium complex, respectively. When emergency vehicles pass the nearest residence, instantaneous noise levels may reach up to 104 dB(A) Lmax. Accounting for the duration of noise, this would result in noise levels of 75 dB(A) Leq.

As discussed above, emergency responses may result in noise levels of up to 104 dB(A) Lmax at nearby residences. Accounting for typical exterior-to-interior noise level reductions interior noise

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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levels at adjacent residences may reach up to 79 dB(A) Lmax (FHWA 2011). These noise levels may interrupt normal activities, however would be only last for several seconds. Additionally, the City operates 47 fire stations within city limits (Station 1, Stations 3–47, and Station 51). Most of these stations are immediately adjacent to residential uses. Therefore, project generated noise levels at residential uses would be similar to noise levels adjacent to existing fire stations. Section 59.5.0402 of the City’s Noise Ordinance exempts “emergency vehicles when being used in emergency situations, including the blowing of sirens and/or horns” from all noise standards. Thus, emergency response vehicles including fire engines and ambulances would not exceed noise standards.

Traffic Noise

As shown in Figure 5, ground-floor noise levels are projected to be 70 CNEL or less across the project site. Modeled noise levels at the building façade of the offices would reach up to 67 CNEL. Fire stations are not typically considered noise-sensitive land uses and the City has not adopted noise compatibility criteria for fire stations. Associated activities including sleep may be disrupted if interior noise levels exceed 45 CNEL. Standard construction techniques would provide an exterior-to-interior noise reduction of 25 dB when windows are closed. Thus, interior noise levels would be 42 CNEL or lesser when windows are closed. As interior noise levels would not exceed 45 CNEL, the project would be compatible with traffic noise levels.

Project-generated traffic would increase traffic volumes on local roadways. Noise level increases would be greatest nearest the project site, which would represent the greatest concentration of project-related traffic. As shown in Table 9, the project traffic would contribute to less than a decibel increase in the noise levels of adjacent roadways. Thus, noise level increases would be less than perceptible. The project would not contribute to a substantial increase in traffic noise from worker commute trips. Noise from emergency response vehicles is exempt from City noise standards (Municipal Code Section 59.5.0402[b]).

Aircraft Noise

The project site is within the 60 CNEL contour of MCAS Miramar. Thus, aircraft noise levels may range from 60 to 65 CNEL. Based on noise compatibility criteria established in the MCAS Miramar ALUCP, fire stations are compatible with noise levels up to 65 CNEL. As aircraft noise levels would not exceed the applicable compatibility criteria the project would be compatible with aircraft noise from MCAS Miramar.

On-site Generated Noise

On-site noise sources would include parking lot activity and mechanical equipment such as, a SCBA cylinder recharging station, two HVAC units, and a standby generator. Parking activity associated with the project would be less intensive than parking lot activity associated with adjacent uses, which do not exceed the City’s Noise Ordinance. Thus, project parking lot activities are not anticipated to exceed the noise level limits from the City’s Noise Control Ordinance.

When the SCBA cylinder recharging station, HVAC units, and standby generator are operated under peak load and vehicle bay doors are open, noise levels along adjacent property lines would reach up to 42 dB(A). As discussed in Section 3.1.1, the City’s Noise Ordinance establishes a daytime noise level limit of 55 dB(A) Leq and a nighttime noise level limit of 45 dB(A) Leq at multi-family land uses

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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(Municipal Code Section 59.5.0401[a]). Therefore, project mechanical equipment would not result in noise levels that exceed applicable daytime or nighttime noise level limits established in the City's Noise Ordinance (Municipal Code Section 59.5.0401[a])." (Noise Analysis for the North University City Fire Station 50 Project, San Diego, California, 2016)"

With compliance to the City's construction noise requirements, project construction and operational noise levels would be reduced to less than significant, and no mitigation measures are required. As stated previously, Emergency Noise conditions exempt emergency vehicles from noise thresholds when being used in emergency situations, including the "blowing of sirens and/or horns" from all noise standards.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| b) Generation of, excessive ground borne vibration or ground borne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

See response XII (a) above. Potential short-term effects from construction noise would be reduced through compliance with City restrictions. No significant long-term impacts would occur, and no mitigation measures are required.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

See response XII (a). The project would not significantly increase long-term (ambient) noise levels; other than short-term emergency response generated noise, which is exempt from noise thresholds per the City's municipal code. Post-construction noise levels and traffic would slightly increase by one decibel, as modeled in comparison to noise levels with the surrounding existing residential and open-space uses. As such, a less than significant impact would result, and no mitigation measures are required.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

See response XII (a). The project would not expose people to a substantial increase in temporary or periodic ambient noise levels. Construction noise would result during grading and construction activities, but would be temporary in nature. Construction-related noise impacts from the project would generally be higher than existing ambient noise levels in the project area, but would no longer occur once construction is completed. In addition, the project would be required to comply with the San Diego Municipal Code, Article 9.5, Noise Abatement and Control, with the exemption of short term impacts associated with emergency response activities. Implementation of these standard measures would reduce potential impacts from an increase in ambient noise level during construction to a less than significant level, and no mitigation measures are required.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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public airport or public use airport would the project expose people residing or working in the area to excessive noise levels?

The project site is located within the MCAS Miramar airport land use plan. Per the acoustical analysis, "The project site is within the 60 CNEL contour of MCAS Miramar. Thus, aircraft noise levels may range from 60 to 65 CNEL. Based on noise compatibility criteria established in the MCAS Miramar Airport Land Use Compatibility Plan (ALUCP), fire stations are compatible with noise levels up to 65 CNEL. As aircraft noise levels would not exceed the applicable compatibility criteria, the project would also be compatible with aircraft noise from MCAS Miramar. (Noise Analysis for the North University City Fire Station 50 Project, San Diego, California, 2016)" Based on this criteria, no significant impacts would result, and as such no mitigation measures are required.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project site is not located within the vicinity of a private airstrip. As such no impacts would result, and no mitigation measures are required.

XIII. POPULATION AND HOUSING – Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

No permanent residences or major infrastructure that could induce population growth are included as part of the proposed project. The proposed project consists of the development of a new fire station. The proposed project would serve an existing and forecasted population in the City of San Diego. Therefore, the proposed project would not induce substantial population growth. As such, no impacts would occur.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project site is currently undeveloped and no such displacement of housing would occur with this project. Therefore, the proposed project would not displace existing housing or people, nor necessitate the construction of replacement housing elsewhere. As such, no impacts would occur.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

See response XIII (b) above. No impacts would result.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire Protection

The proposed project consists of the development of a Fire Station to serve existing and forecasted population in the City and to improve emergency response time in the University City community. Per University Community Plan, the project meets the intent of implementing the Public Facilities Element: "The University community is served by a police substation and fire station located on Eastgate Mall between Regents Road and Genesee Avenue. Additional public safety related facilities and services (e.g., police, fire, and emergency medical response) should be provided to assure levels of service standards are attained for existing development and as development occurs. New facilities should have good vehicular access and be carefully reviewed for environmental, land use and aesthetic impacts. Appropriate equipment and staffing should be assigned to the facilities to assure adequate response to the population and the structure types which may exist in the community."

Furthermore, construction of the new fire station would provide enhanced facilities and capacity for the San Diego Fire Department (SDFD) to provide fire protection and emergency services. Staffing for this station would increase. Therefore, the proposed project would not result in a negative impact on fire protection and emergency services provided by the SDFD. Rather, the proposed project would result in a beneficial impact on fire protection services.

The project site is located in an urbanized area where fire protection services are already provided. The Project site is located within and adjacent to the City's Multi-Habitat Preservation Area (MHPA), California State Park land, and within high fire sensitive area; therefore, a comprehensive Brush Management Plan must be established. Since the full Brush Management Zones cannot be provided entirely on-site, the proposed structures would have to meet alternative compliance measures. Alternative compliance measures are proposed to provide for fire rated walls and all openings shall incorporate dual glazed/dual tempered window panes. Additionally, all proposed landscaping adjoining the southern and eastern perimeter of the site would not use invasive plant species. Landscaping adjacent to these areas shall use plant species naturally occurring in that area. Construction of the project would not adversely affect existing levels of fire protection services to the area, and would not require the construction of new, or expansion of, existing governmental facilities. Impacts would be less than significant, and no mitigation measures are required.

ii) Police Protection

The proposed project would result in a significant environmental impact if new or physically altered police protection facilities would need to be built to maintain acceptable service ratios, response times, or other performance objectives for police protection. The proposed project is not a type of land use typically associated with the need for police protection. With the Project, the level of

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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policing required would not increase in comparison to existing conditions. Therefore, new or physically altered police protection facilities would not need to be built, and no impacts would occur.

iii) Schools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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It is anticipated that both the construction workers and the firefighters who would work in the station would be drawn from the local area and that the project would not increase the population of San Diego. Therefore, the Project would not generate any demand for increased school services. As such, no impacts would occur.

v) Parks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project is not a type of land use typically associated with the need for additional park space. As such, no impacts would occur.

vi) Other public facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed Project would not increase the resident population generating a need for additional public facilities (example libraries, etc.). See Response XIV (a)(i) through (v) for additional details, As such, no impacts would occur.

XV. RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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As discussed in Section XV (a) Population and Housing, the proposed project consists of the construction of a new fire station to serve existing and forecasted population in the City. No population growth would occur as a result of the proposed project. As such, the proposed project would not result in an increased demand for parks or recreational services. No impacts would occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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See response to XIV (a) above. The project does not propose recreation facilities, nor does it require the construction or expansion of any such facilities. No impacts would result.

XVI. TRANSPORTATION/TRAFFIC – Would the project?

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Construction of the project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

With regards to intersection issues, the project’s location is specifically identified within the City’ General Plan for a fire facility. In terms of impacts to the circulation system, it was determined within the project’s “Fire Station 50 – Traffic Memorandum”, “Construction of the project was found not to conflict with existing or future Levels of Service (LOS) as it relates to local roadways, (Noble Drive and at the Shoreline Drive) as detailed in the “Fire Station 50 – Traffic Memorandum” Page 3, “Project traffic for the AM and PM peak hours were added to existing traffic at the intersection of Nobel Drive at Shoreline Drive. Intersection delays and level of service for the Existing With Project peak hour traffic is provided in Attachment 8 which shows Nobel Drive at Shoreline Drive is projected to operate at an acceptable level of service i.e. LOS C in the AM peak hour and LOS D in the PM peak hour. A project impact occurs if project traffic causes a street segment or intersection to operate at an unacceptable level of service i.e. LOS “E” or “F” and/or exceeds the significance thresholds outlined in the City’s Significant Determination Thresholds (April 2004). Attachment 9 shows the street segment and intersection LOS comparison tables. As shown, both study street segments and the intersection of Nobel Drive / Shoreline Drive operate at acceptable levels of service without and with Fire Station 50. There are no direct significant impacts to study street segments or intersection as a result of the proposed Fire Station 50. Therefore, no mitigation is required” (Fire Station 50 – Traffic Memorandum, 2017).

In terms of interruption of mass transit, Bus Route 204 currently travels along Nobel Drive that ultimately connects to the University Towne Center (UTC) Transit Center. There is an existing bus stop on Nobel Drive is located approximately 175 feet west of Shoreline Drive on the north side of the street for Bus Route 204. The project as design would not directly impact the location of this stop. The only modification in this area is at the new exit driveway to east and the traffic signal loop with a controlled emergency vehicle detector (EVP). Access would continue to be afforded to mass transit with very limited infrequent interruptions when a fire engine exits the facility.

Construction of the project is consistent and compatible with the existing pedestrian improvements along Noble and Shoreline Drive and the development of the site would not interfere with any planned future pedestrian connections or linkages. Furthermore, an existing Class II bike path is currently provided along Nobel Drive and would remain in place with this project. The University Community Plan “Figure 23”, identifies a Class II bicycle facility for this location as the ultimate roadway condition. The only modification in this area is the new exit driveway and traffic signal with

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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controlled EVP. Access would continue to be provided to both pedestrian and bicyclist with limited interruptions when a fire engine exits the facility. All in all, impacts would considered less than significant, and no mitigation measures are required.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <p>b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Refer to response XVI (a) above. The project would not conflict with any applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Impacts are considered less than significant, and no mitigation measures are required.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <p>c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project would not result in a change to air traffic patterns. The project is located within the adopted 2005 MCAS Miramar Airport Influence Area. The site is within the 2008 MCAS Miramar Airport Land Use Compatibility Plan within the 60-65 dB Community Noise Equivalent Level (CNEL) noise contours. Outside accident zones, beneath the approach/departure and conical surfaces for MCAS Miramar. The proposed project was found to be consistent with ALCUZ land use compatibility guidelines for Miramar Operations. The proposed height of the structure was found not to penetrate any Federal Aviation Administration Part 77 airspace at a height of 38'-6". No impacts would result.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <p>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project would alter existing circulation patterns on Noble and Shoreline Drive. Both Shoreline Drive and Noble Drive, and the new driveway exit from the Fire Station at Noble Drive were analyzed for both vehicle and pedestrian safety. It was determined City Transportation and Engineering safety staff the project as proposed would not result an increase hazard due to site's design features pertaining to intersection improvements. No impacts would result.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| <p>e) Result in inadequate emergency access?</p> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project would not result in inadequate emergency access; however, would in fact improve emergency access with the additional circulation enhancements as it relates to this project. The project design would be subject to City review and approval for consistency with all design requirements to ensure that no impediments to emergency access occur. No impacts would result.

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Refer to response XVI (a) above. Any impacts would be less than significant.

XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Implementation of the project would not interrupt existing sewer service to the project site or other surrounding uses. A minor increase in demand for wastewater disposal or treatment would be created by the project, as compared to current conditions. The proposed fire station is not anticipated to generate significant amounts of wastewater. Wastewater facilities used by the project would be operated in accordance with the applicable wastewater treatment requirements of the Regional Water Quality Control Board (RWQCB). Additionally, the project site is located in an urbanized and developed area. Adequate services are already available to serve the project. Impacts would be less than significant, and no mitigation measures are required.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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See response XVII (a) above. Adequate services are available to serve the project site. Additionally, the proposed fire station would not significantly increase the demand for water or wastewater treatment services and thus, would not trigger the need for new treatment facilities. Impacts would be less than significant, and no mitigation measures are required.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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The project would not exceed the capacity of the existing storm water drainage systems and therefore, would not require construction of new or expansion of existing storm water drainage facilities of which could cause significant environmental effects. The project was reviewed by qualified City staff who determined that the existing facilities are adequately sized to accommodate the proposed development. Impacts would be less than significant, and no mitigation measures are required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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or expanded entitlements needed?

The project does not meet the CEQA significance threshold requiring the need for the project to prepare a water supply assessment. The existing project site currently receives water service from the City, and adequate services are available to serve the proposed fire station without requiring new or expanded entitlements. Impacts would be less than significant.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Construction of the project would not adversely affect existing wastewater treatment services. Adequate services are available to serve the project site without requiring new or expanded entitlements. Impacts would be less than significant, and no mitigation measures are required.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

Construction debris and waste would be generated from the construction of the project. All construction waste from the project site would be transported to an appropriate facility, which would have sufficient permitted capacity to accept that generated by the project. Long-term operation of the residential use is anticipated to generate typical amounts of solid waste associated with residential uses. Furthermore, the project would be required to comply with the City's Municipal Code requirement for diversion of both construction waste during the short-term, construction phase and solid waste during the long-term, operational phase. Impacts are considered to be less than significant, and no mitigation measures are required.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| g) Comply with federal, state, and local statutes and regulation related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

The project would comply with all Federal, State, and local statutes and regulations related to the handling and disposal of solid waste. The project would not result in the generation of large amounts of solid waste, nor generate or require the transport of hazardous waste materials, other than minimal amounts generated during the construction phase. All demolition activities would comply with any City of San Diego requirements for diversion of both construction waste during the demolition phase and solid waste during the long-term, operational phase. Impacts would be less than significant, and no mitigation measures are required.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The proposed Project involves the construction of a new fire station to better serve the projected increase in population growth in the City of San Diego, specifically within the University Community Planning Area. The selected site for the new fire station meets the needs of the community and Fire Department. Furthermore, the location will help meet the Fire Department's response time standards in the North University City area. The site is within an established residential neighborhood, adjacent to open-space area to east. This analysis has determined that, although there is the potential of significant impacts related to Historical Resources (Archaeology), Biological Resources, Land Use, and Paleontological Resources. As such, mitigation measures included in this document would reduce these potential impacts to a less than significant level as outlined within the Mitigated Negative Declaration.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable futures projects)?
- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
|  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

Cumulative impacts can result from individually minor but collectively significant actions taking place over time. For the purpose of this Initial Study, the project may have cumulative considerable impacts to Historical Resources (Archaeology), Biological Resources, Land Use, and Paleontological Resources. As such, mitigation measures included in this document would reduce these potential impacts to a less than significant. Other future projects within the surrounding neighborhood or community would be required to comply with applicable local, State, and Federal regulations to reduce potential impacts to less than significant, or to the extent possible. As such, the project is not anticipated to contribute to potentially significant cumulative environmental impacts.

- c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?
- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
|  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

The construction of a new fire station is consistent with the setting and with the use anticipated by the City (University Community Plan – Public Facilities Element). Based on the analysis presented above, implementation of the aforementioned mitigation measures would reduce environmental

Issue	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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impacts such that no substantial adverse effects on humans would occur.

# INITIAL STUDY CHECKLIST

## REFERENCES

### I. Aesthetics / Neighborhood Character

- City of San Diego General Plan.
- Community Plans: University Community Plan
- Site Specific Report: Proposed Site Exhibit, Architectural Drawings

### II. Agricultural Resources & Forest Resources

- City of San Diego General Plan
- U.S. Department of Agriculture, Soil Survey - San Diego Area, California, Part I and II, 1973
- California Agricultural Land Evaluation and Site Assessment Model (1997)
- Site Specific Report:

### III. Air Quality

- California Clean Air Act Guidelines (Indirect Source Control Programs) 1990
- Regional Air Quality Strategies (RAQS) - APCD
- Site Specific Report:

### IV. Biology

- City of San Diego, Multiple Species Conservation Program (MSCP), Subarea Plan, 1997
- City of San Diego, MSCP, "Vegetation Communities with Sensitive Species and Vernal Pools" Maps, 1996
- City of San Diego, MSCP, "Multiple Habitat Planning Area" maps, 1997
- Community Plan - Resource Element
- California Department of Fish and Game, California Natural Diversity Database, "State and Federally-listed Endangered, Threatened, and Rare Plants of California," January 2001
- California Department of Fish & Game, California Natural Diversity Database, "State and Federally-listed Endangered and Threatened Animals of California," January 2001
- City of San Diego Land Development Code Biology Guidelines

Site Specific Report: Biological Survey Report for the North University Fire Station 50 Project, San Diego, California, RECON Environmental, Inc. Brian Parker, Associate Biologist, February 20, 2017.

Site Specific Report: Native Grassland Restoration Plan for the North University Fire Station 50 Project, San Diego, California, RECON Environmental, Inc. Brian Parker, Associate Biologist, December 23, 2016.

**V. Cultural Resources (includes Historical Resources)**

City of San Diego Historical Resources Guidelines

City of San Diego Archaeology Library

Historical Resources Board List

Community Historical Survey:

Site Specific Report: Archaeological Resources Report for the North University Fire Station 50 Project, San Diego, California, RECON Environmental, Inc. Carmen Zepeda-Herman, Principal Investigator, February 20, 2017.

**VI. Geology/Soils**

City of San Diego Seismic Safety Study

U.S. Department of Agriculture Soil Survey - San Diego Area, California, Part I and II, December 1973 and Part III, 1975

Site Specific Report(s): Geotechnical Evaluation, Proposed Fire Station No. 50, Ninyo & Moore, August 18, 2016.

**VII. Greenhouse Gas Emissions**

Site Specific Report: Climate Action Plan (CAP) Consistency Checklist, Fire Station 50 Project, March 13, 2017.

**VIII. Hazards and Hazardous Materials**

San Diego County Hazardous Materials Environmental Assessment Listing

San Diego County Hazardous Materials Management Division

FAA Determination

State Assessment and Mitigation, Unauthorized Release Listing, Public Use Authorized

State Water Resources Control Board GeoTracker: <http://geotracker.waterboards.ca.gov/>

Airport Land Use Compatibility Plan

Site Specific Report:

## **IX. Hydrology/Water Quality**

Flood Insurance Rate Map (FIRM)

Federal Emergency Management Agency (FEMA), National Flood Insurance Program-Flood Boundary and Floodway Map

Clean Water Act Section 303(b) list, [http://www.swrcb.ca.gov/tmdl/303d\\_lists.html](http://www.swrcb.ca.gov/tmdl/303d_lists.html)

Site Specific Report: Priority Development Project (PDP) Storm Water Quality Management Plan (SWQMP) for Fire Station 50, Christensen Engineering & Surveying, December 15, 2016.

## **X. Land Use and Planning**

City of San Diego General Plan

Community Plans: University

Airport Land Use Compatibility Plan

City of San Diego Zoning Maps

FAA Determination

Other Plans:

## **XI. Mineral Resources**

California Department of Conservation - Division of Mines and Geology, Mineral Land Classification

Division of Mines and Geology, Special Report 153 - Significant Resources Maps

Site Specific Report:

## **XII. Noise**

City of San Diego General Plan

- Community Plan
- San Diego International Airport - Lindbergh Field CNEL Maps
- Brown Field Airport Master Plan CNEL Maps
- Montgomery Field CNEL Maps
- San Diego Association of Governments - San Diego Regional Average Weekday Traffic Volumes
- San Diego Metropolitan Area Average Weekday Traffic Volume Maps, SANDAG
- Site Specific Report: Noise Analysis for the North University City Fire Station 50 Project, San Diego, California, RECON Environmental, Inc. Jack T. Emerson, Noise Analyst, February 20, 2017.

**XIII. Paleontological Resources**

- City of San Diego Paleontological Guidelines
- Deméré, Thomas A., and Stephen L. Walsh, "Paleontological Resources City of San Diego," Department of Paleontology San Diego Natural History Museum, 1996
- Kennedy, Michael P., and Gary L. Peterson, "Geology of the San Diego Metropolitan Area, California. Del Mar, La Jolla, Point Loma, La Mesa, Poway, and SW 1/4 Escondido 7 1/2 Minute Quadrangles," California Division of Mines and Geology Bulletin 200, Sacramento, 1975
- Kennedy, Michael P., and Siang S. Tan, "Geology of National City, Imperial Beach and Otay Mesa Quadrangles, Southern San Diego Metropolitan Area, California," Map Sheet 29, 1977
- Site Specific Report:

**XIV. Population / Housing**

- City of San Diego General Plan
- Community Plans: University
- Series 11/Series 12 Population Forecasts, SANDAG
- Other:

**XV. Public Services**

- City of San Diego General Plan

X Community Plans: University

**XVI. Recreational Resources**

X City of San Diego General Plan

X Community Plans: University

\_\_\_ Department of Park and Recreation

\_\_\_ City of San Diego - San Diego Regional Bicycling Map

\_\_\_ Additional Resources:

**XVII. Transportation / Circulation**

X City of San Diego General Plan

X Community Plans: Community Plans: University

\_\_\_ San Diego Metropolitan Area Average Weekday Traffic Volume Maps, SANDAG

\_\_\_ San Diego Region Weekday Traffic Volumes, SANDAG

X Site Specific Report: Fire Station 50 – Traffic Memorandum, Urban Systems Associates, Inc., March 1, 2017

**XVIII. Utilities**

X City of San Diego General Plan

\_\_\_ Site Specific Report:

**XIX. Water Conservation**

\_\_\_ Sunset Magazine, New Western Garden Book, Rev. ed. Menlo Park, CA: Sunset Magazine

Created: REVISED - October 11, 2013

**APPENDIX B**  
**FIRE HYDRANT METER PROGRAM**

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 1 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

1. **PURPOSE**

- 1.1 To establish a Departmental policy and procedure for issuance, proper usage and charges for fire hydrant meters.

2. **AUTHORITY**

- 2.1 All authorities and references shall be current versions and revisions.
- 2.2 San Diego Municipal Code (NC) Chapter VI, Article 7, Sections 67.14 and 67.15
- 2.3 Code of Federal Regulations, Safe Drinking Water Act of 1986
- 2.4 California Code of Regulations, Titles 17 and 22
- 2.5 California State Penal Code, Section 498B.0
- 2.6 State of California Water Code, Section 110, 500-6, and 520-23
- 2.7 Water Department Director

**Reference**

- 2.8 State of California Guidance Manual for Cross Connection Programs
- 2.9 American Water Works Association Manual M-14, Recommended Practice for Backflow Prevention
- 2.10 American Water Works Association Standards for Water Meters
- 2.11 U.S.C. Foundation for Cross Connection Control and Hydraulic Research Manual

3. **DEFINITIONS**

- 3.1 **Fire Hydrant Meter:** A portable water meter which is connected to a fire hydrant for the purpose of temporary use. (These meters are sometimes referred to as Construction Meters.)

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 2 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

- 3.2 **Temporary Water Use:** Water provided to the customer for no longer than twelve (12) months.
- 3.3 **Backflow Preventor:** A Reduced Pressure Principal Assembly connected to the outlet side of a Fire Hydrant Meter.

4. **POLICY**

- 4.1 The Water Department shall collect a deposit from every customer requiring a fire hydrant meter and appurtenances prior to providing the meter and appurtenances (see Section 7.1 regarding the Fees and Deposit Schedule). The deposit is refundable upon the termination of use and return of equipment and appurtenances in good working condition.
- 4.2 Fire hydrant meters will have a 2 ½" swivel connection between the meter and fire hydrant. The meter shall not be connected to the 4" port on the hydrant. All Fire Hydrant Meters issued shall have a Reduced Pressure Principle Assembly (RP) as part of the installation. Spanner wrenches are the only tool allowed to turn on water at the fire hydrant.
- 4.3 The use of private hydrant meters on City hydrants is prohibited, with exceptions as noted below. All private fire hydrant meters are to be phased out of the City of San Diego. All customers who wish to continue to use their own fire hydrant meters must adhere to the following conditions:
  - a. Meters shall meet all City specifications and American Water Works Association (AWWA) standards.
  - b. Customers currently using private fire hydrant meters in the City of San Diego water system will be allowed to continue using the meter under the following conditions:
    - 1. The customer must submit a current certificate of accuracy and calibration results for private meters and private backflows annually to the City of San Diego, Water Department, Meter Shop.

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 3 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

2. The meter must be properly identifiable with a clearly labeled serial number on the body of the fire hydrant meter. The serial number shall be plainly stamped on the register lid and the main casing. Serial numbers shall be visible from the top of the meter casing and the numbers shall be stamped on the top of the inlet casing flange.
3. All meters shall be locked to the fire hydrant by the Water Department, Meter Section (see Section 4.7).
4. All meters shall be read by the Water Department, Meter Section (see Section 4.7).
5. All meters shall be relocated by the Water Department, Meter Section (see Section 4.7).
6. These meters shall be tested on the anniversary of the original test date and proof of testing will be submitted to the Water Department, Meter Shop, on a yearly basis. If not tested, the meter will not be allowed for use in the City of San Diego.
7. All private fire hydrant meters shall have backflow devices attached when installed.
8. The customer must maintain and repair their own private meters and private backflows.
9. The customer must provide current test and calibration results to the Water Department, Meter Shop after any repairs.
10. When private meters are damaged beyond repair, these private meters will be replaced by City owned fire hydrant meters.

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 4 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

11. When a private meter malfunctions, the customer will be notified and the meter will be removed by the City and returned to the customer for repairs. Testing and calibration results shall be given to the City prior to any re-installation.
  12. The register shall be hermetically sealed straight reading and shall be readable from the inlet side. Registration shall be in hundred cubic feet.
  13. The outlet shall have a 2 ½ “National Standards Tested (NST) fire hydrant male coupling.
  14. Private fire hydrant meters shall not be transferable from one contracting company to another (i.e. if a company goes out of business or is bought out by another company).
- 4.4 All fire hydrant meters and appurtenances shall be installed, relocated and removed by the City of San Diego, Water Department. All City owned fire hydrant meters and appurtenances shall be maintained by the City of San Diego, Water Department, Meter Services.
- 4.5 If any fire hydrant meter is used in violation of this Department Instruction, the violation will be reported to the Code Compliance Section for investigation and appropriate action. Any customer using a fire hydrant meter in violation of the requirements set forth above is subject to fines or penalties pursuant to the Municipal Code, Section 67.15 and Section 67.37.
- 4.6 **Conditions and Processes for Issuance of a Fire Hydrant Meter**
- Process for Issuance
- a. Fire hydrant meters shall only be used for the following purposes:
    1. Temporary irrigation purposes not to exceed one year.

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 5 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

2. Construction and maintenance related activities (see Tab 2).
  - b. No customer inside or outside the boundaries of the City of San Diego Water Department shall resell any portion of the water delivered through a fire hydrant by the City of San Diego Water Department.
  - c. The City of San Diego allows for the issuance of a temporary fire hydrant meter for a period not to exceed 12 months (365 days). An extension can only be granted in writing from the Water Department Director for up to 90 additional days. A written request for an extension by the consumer must be submitted at least 30 days prior to the 12 month period ending. No extension shall be granted to any customer with a delinquent account with the Water Department. No further extensions shall be granted.
  - d. Any customer requesting the issuance of a fire hydrant meter shall file an application with the Meter Section. The customer must complete a "Fire Hydrant Meter Application" (Tab 1) which includes the name of the company, the party responsible for payment, Social Security number and/or California ID, requested location of the meter (a detailed map signifying an exact location), local contact person, local phone number, a contractor's license (or a business license), description of specific water use, duration of use at the site and full name and address of the person responsible for payment.
  - e. At the time of the application the customer will pay their fees according to the schedule set forth in the Rate Book of Fees and Charges, located in the City Clerk's Office. All fees must be paid by check, money order or cashiers check, made payable to the City Treasurer. Cash will not be accepted.
  - f. No fire hydrant meters shall be furnished or relocated for any customer with a delinquent account with the Water Department.
  - g. After the fees have been paid and an account has been created, the

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 6 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

meter shall be installed within 48 hours (by the second business day). For an additional fee, at overtime rates, meters can be installed within 24 hours (within one business day).

#### 4.7 Relocation of Existing Fire Hydrant Meters

- a. The customer shall call the Fire Hydrant Meter Hotline (herein referred to as “Hotline”), a minimum of 24 hours in advance, to request the relocation of a meter. A fee will be charged to the existing account, which must be current before a work order is generated for the meter’s relocation.
- b. The customer will supply in writing the address where the meter is to be relocated (map page, cross street, etc). The customer must update the original Fire Hydrant Meter Application with any changes as it applies to the new location.
- c. Fire hydrant meters shall be read on a monthly basis. While fire hydrant meters and backflow devices are in service, commodity, base fee and damage charges, if applicable, will be billed to the customer on a monthly basis. If the account becomes delinquent, the meter will be removed.

#### 4.8 Disconnection of Fire Hydrant Meter

- a. After ten (10) months a “Notice of Discontinuation of Service” (Tab 3) will be issued to the site and the address of record to notify the customer of the date of discontinuance of service. An extension can only be granted in writing from the Water Department Director for up to 90 additional days (as stated in Section 4.6C) and a copy of the extension shall be forwarded to the Meter Shop Supervisor. If an extension has not been approved, the meter will be removed after twelve (12) months of use.
- b. Upon completion of the project the customer will notify the Meter Services office via the Hotline to request the removal of the fire hydrant meter and appurtenances. A work order will be generated

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 7 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

for removal of the meter.

- c. Meter Section staff will remove the meter and backflow prevention assembly and return it to the Meter Shop. Once returned to the Meter Shop the meter and backflow will be tested for accuracy and functionality.
- d. Meter Section Staff will contact and notify Customer Services of the final read and any charges resulting from damages to the meter and backflow or its appurtenance. These charges will be added on the customer's final bill and will be sent to the address of record. Any customer who has an outstanding balance will not receive additional meters.
- e. Outstanding balances due may be deducted from deposits and any balances refunded to the customer. Any outstanding balances will be turned over to the City Treasurer for collection. Outstanding balances may also be transferred to any other existing accounts.

5. **EXCEPTIONS**

- 5.1 Any request for exceptions to this policy shall be presented, in writing, to the Customer Support Deputy Director, or his/her designee for consideration.

6. **MOBILE METER**

- 6.1 Mobile meters will be allowed on a case by case basis. All mobile meters will be protected by an approved backflow assembly and the minimum requirement will be a Reduced Pressure Principal Assembly. The two types of Mobile Meters are vehicle mounted and floating meters. Each style of meters has separate guidelines that shall be followed for the customer to retain service and are described below:

- a) **Vehicle Mounted Meters:** Customer applies for and receives a City owned Fire Hydrant Meter from the Meter Shop. The customer mounts the meter on the vehicle and brings it to the Meter Shop for

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 8 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

inspection. After installation is approved by the Meter Shop the vehicle and meter shall be brought to the Meter Shop on a monthly basis for meter reading and on a quarterly basis for testing of the backflow assembly. Meters mounted at the owner's expense shall have the one year contract expiration waived and shall have meter or backflow changed if either fails.

b) **Floating Meters:** Floating Meters are meters that are not mounted to a vehicle. **(Note: All floating meters shall have an approved backflow assembly attached.)** The customer shall submit an application and a letter explaining the need for a floating meter to the Meter Shop. The Fire Hydrant Meter Administrator, after a thorough review of the needs of the customer, (i.e. number of jobsites per day, City contract work, lack of mounting area on work vehicle, etc.), may issue a floating meter. At the time of issue, it will be necessary for the customer to complete and sign the "Floating Fire Hydrant Meter Agreement" which states the following:

- 1) The meter will be brought to the Meter Shop at 2797 Caminito Chollas, San Diego on the third week of each month for the monthly read by Meter Shop personnel.
- 2) Every other month the meter will be read and the backflow will be tested. This date will be determined by the start date of the agreement.

If any of the conditions stated above are not met the Meter Shop has the right to cancel the contract for floating meter use and close the account associated with the meter. The Meter Shop will also exercise the right to refuse the issuance of another floating meter to the company in question.

Any Fire Hydrant Meter using reclaimed water shall not be allowed use again with any potable water supply. The customer shall incur the cost of replacing the meter and backflow device in this instance.

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 9 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

7. **FEE AND DEPOSIT SCHEDULES**

7.1 **Fees and Deposit Schedules:** The fees and deposits, as listed in the Rate Book of Fees and Charges, on file with the Office of the City Clerk, are based on actual reimbursement of costs of services performed, equipment and materials. These deposits and fees will be amended, as needed, based on actual costs. Deposits, will be refunded at the end of the use of the fire hydrant meter, upon return of equipment in good working condition and all outstanding balances on account are paid. Deposits can also be used to cover outstanding balances.

All fees for equipment, installation, testing, relocation and other costs related to this program are subject to change without prior notification. The Mayor and Council will be notified of any future changes.

8. **UNAUTHORIZED USE OF WATER FROM A HYDRANT**

8.1 Use of water from any fire hydrant without a properly issued and installed fire hydrant meter is theft of City property. Customers who use water for unauthorized purposes or without a City of San Diego issued meter will be prosecuted.

8.2 If any unauthorized connection, disconnection or relocation of a fire hydrant meter, or other connection device is made by anyone other than authorized Water Department personnel, the person making the connection will be prosecuted for a violation of San Diego Municipal Code, Section 67.15. In the case of a second offense, the customer's fire hydrant meter shall be confiscated and/or the deposit will be forfeited.

8.3 Unauthorized water use shall be billed to the responsible party. Water use charges shall be based on meter readings, or estimates when meter readings are not available.

8.4 In case of unauthorized water use, the customer shall be billed for all applicable charges as if proper authorization for the water use had been obtained, including but not limited to bi-monthly service charges, installation charges and removal charges.

<b>CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS</b>	<b>NUMBER DI 55.27</b>	<b>DEPARTMENT Water Department</b>
<b>SUBJECT  FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)</b>	<b>PAGE 10 OF 10</b>	<b>EFFECTIVE DATE  October 15, 2002</b>
	<b>SUPERSEDES DI 55.27</b>	<b>DATED April 21, 2000</b>

- 8.5 If damage occurs to Water Department property (i.e. fire hydrant meter, backflow, various appurtenances), the cost of repairs or replacements will be charged to the customer of record (applicant).

**Larry Gardner  
Water Department Director**

- Tabs: 1. Fire Hydrant Meter Application  
2. Construction & Maintenance Related Activities With No Return To Sewer  
3. Notice of Discontinuation of Service

### **APPENDIX**

**Administering Division:** Customer Support Division

**Subject Index:** Construction Meters  
Fire Hydrant  
Fire Hydrant Meter Program  
Meters, Floating or Vehicle Mounted  
Mobile Meter  
Program, Fire Hydrant Meter

**Distribution:** DI Manual Holders



# Application for Fire Hydrant Meter (EXHIBIT A)

(For Office Use Only)

NS REQ	FAC#
DATE	BY

METER SHOP (619) 527-7449

## Meter Information

Application Date	Requested Install Date:
------------------	-------------------------

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) <u>Zip:</u>	T.B.	G.B. (CITY USE)
Specific Use of Water:		
Any Return to Sewer or Storm Drain, if so, explain:		
Estimated Duration of Meter Use: <input type="text"/>	<input type="checkbox"/>	Check Box if Reclaimed Water

## Company Information

Company Name:			
Mailing Address:			
City:	State:	Zip:	Phone: ( )
*Business license#		*Contractor license#	
A Copy of the Contractor's license OR Business License is required at the time of meter issuance.			
Name and Title of Billing Agent: <small>(PERSON IN ACCOUNTS PAYABLE)</small>			Phone: ( )
Site Contact Name and Title:			Phone: ( )
Responsible Party Name:			Title:
Cal ID#			Phone: ( )
Signature:		Date:	
<small>Guarantees Payment of all Charges Resulting from the use of this Meter. Insures that employees of this Organization understand the proper use of Fire Hydrant Meter</small>			

<b>Fire Hydrant Meter Removal Request</b>	Requested Removal Date:
Provide Current Meter Location if Different from Above:	
Signature:	Title: Date:
Phone: ( )	Pager: ( )

<input type="checkbox"/> City Meter	<input type="checkbox"/> Private Meter	
Contract Acct #:	Deposit Amount: <b>\$ 936.00</b>	Fees Amount: <b>\$ 62.00</b>
Meter Serial #	Meter Size: <b>05</b>	Meter Make and Style: <b>6-7</b>
Backflow #	Backflow Size:	Backflow Make and Style:
Name:	Signature:	Date:

**WATER USES WITHOUT ANTICIPATED CHARGES FOR RETURN TO SEWER**

Auto Detailing  
Backfilling  
Combination Cleaners (Vactors)  
Compaction  
Concrete Cutters  
Construction Trailers  
Cross Connection Testing  
Dust Control  
Flushing Water Mains  
Hydro Blasting  
Hydro Seeing  
Irrigation (for establishing irrigation only; not continuing irrigation)  
Mixing Concrete  
Mobile Car Washing  
Special Events  
Street Sweeping  
Water Tanks  
Water Trucks  
Window Washing

**Note:**

1. If there is any return to sewer or storm drain, then sewer and/or storm drain fees will be charges.

Date

Name of Responsible Party  
Company Name and Address  
Account Number: \_\_\_\_\_

Subject:           Discontinuation of Fire Hydrant Meter Service

Dear Water Department Customer:

The authorization for use of Fire Hydrant Meter # \_\_\_\_\_, located at (*Meter Location Address*) ends in 60 days and will be removed on or after (*Date Authorization Expires*). Extension requests for an additional 90 days must be submitted in writing for consideration 30 days prior to the discontinuation date. If you require an extension, please contact the Water Department, or mail your request for an extension to:

City of San Diego  
Water Department  
Attention: Meter Services  
2797 Caminito Chollas  
San Diego, CA 92105-5097

Should you have any questions regarding this matter, please call the Fire Hydrant Hotline at (619) \_\_\_\_\_ - \_\_\_\_\_.

Sincerely,

Water Department

**APPENDIX C**  
**LOCATION MAP**

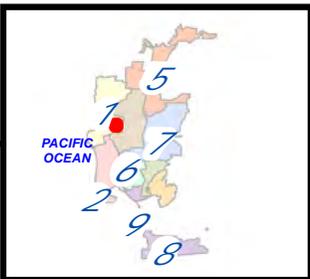
## North University Fire Station 50

SENIOR ENGINEER  
Jason Grani  
619-533-7525

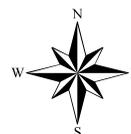
PROJECT MANAGER  
Rowaida Jadan  
619-533-6655

PROJECT ENGINEER  
Jasiah Neff  
619-533-7462

FOR QUESTIONS ABOUT THIS PROJECT  
Call: 619-533-4207  
Email: [engineering@sandiego.gov](mailto:engineering@sandiego.gov)



**Legend** ● North University Fire Station 50



**APPENDIX D**  
**SAMPLE OF PUBLIC NOTICE**



# CONSTRUCTION NOTICE

## PROJECT NAME

### **Trenching on your street is complete.**

#### **What you need to know:**

- Pipe installation on your street is complete and construction crews are now installing new pipeline for this project at another location.
- You may see temporary trench plates or trench caps for some time –even after construction activities have concluded on your street.

#### **Street resurfacing:**

- Your Streets will be resurfaced once the entire pipeline project is complete.
- Concrete streets will not be resurfaced curb to curb; only the trench will be backfilled.
- Street resurfacing may be delayed due to the City’s slurry seal moratorium.

#### **Estimated resurfacing completion on your street:**

(Insert Date-Month and Year)

#### **For questions related to this work**

- Call:** (619) 533-4207
- Email:** [engineering@sandiego.gov](mailto:engineering@sandiego.gov)
- Visit:** [sandiego.gov/CIP](http://sandiego.gov/CIP)



This information is available in alternative formats upon request.



**APPENDIX E**  
**SAMPLE CITY INVOICE WITH SPEND CURVE**



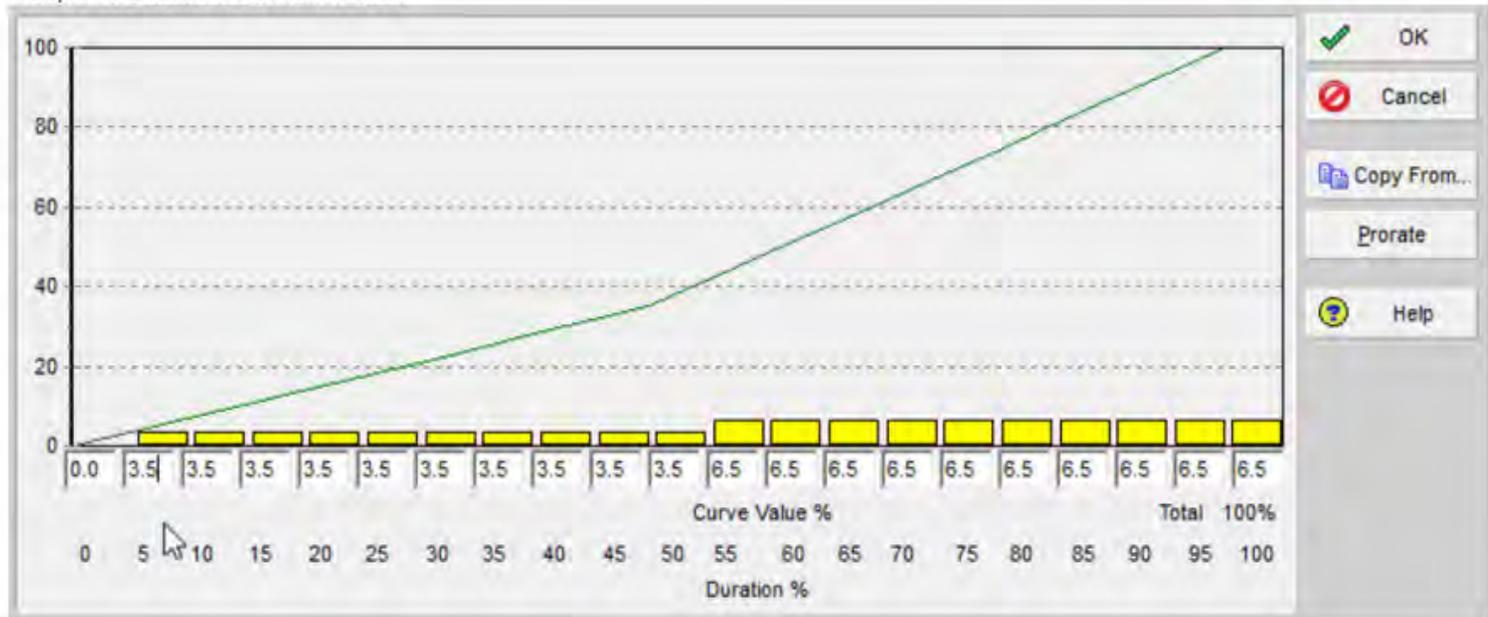
## Sample Project Spend Curve

Sample Date Entries Required

Incremental Curve Value  
Duration % Increment

0.0%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%

Sample Screenshot from Primavera P6



**APPENDIX F**  
**HAZARDOUS LABEL/FORMS**

# HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL  
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY  
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY  
OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES

GENERATOR NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_ 24 HR. PHONE ( ) \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
EPA ID NO. \_\_\_\_\_ MANIFEST DOCUMENT NO. \_\_\_\_\_  
EPA WASTE NO. \_\_\_\_\_ CA WASTE NO. \_\_\_\_\_ ACCUMULATION START DATE \_\_\_\_\_ / /

CONTENTS, COMPOSITION \_\_\_\_\_  
PROPER DOT SHIPPING NAME \_\_\_\_\_  
TECHNICAL NAME (S) \_\_\_\_\_  
UNNA NO. WITH PREFIX \_\_\_\_\_

PHYSICAL STATE | HAZARDOUS PROPERTIES |  FLAMMABLE |  TOXIC  
 SOLID |  LIQUID |  CORROSIVE |  REACTIVE |  OTHER \_\_\_\_\_

**HANDLE WITH CARE!**  
CONTAINS HAZARDOUS OR TOXIC WASTES

# INCIDENT/RELEASE ASSESSMENT FORM <sup>1</sup>

## If you have an emergency, Call 911

Handlers of hazardous materials are required to report releases. The following is a tool to be used for assessing if a release is reportable. Additionally, a non-reportable release incident form is provided to document why a release is not reported (see back).

### Questions for Incident Assessment:

	YES	NO
1. Was anyone killed or injured, or did they require medical care or admitted to a hospital for observation?	<input type="checkbox"/>	<input type="checkbox"/>
2. Did anyone, other than employees in the immediate area of the release, evacuate?	<input type="checkbox"/>	<input type="checkbox"/>
3. Did the release cause off-site damage to public or private property?	<input type="checkbox"/>	<input type="checkbox"/>
4. Is the release greater than or equal to a reportable quantity (RQ)?	<input type="checkbox"/>	<input type="checkbox"/>
5. Was there an uncontrolled or unpermitted release to the air?	<input type="checkbox"/>	<input type="checkbox"/>
6. Did an uncontrolled or unpermitted release escape secondary containment, or extend into any sewers, storm water conveyance systems, utility vaults and conduits, wetlands, waterways, public roads, or off site?	<input type="checkbox"/>	<input type="checkbox"/>
7. Will control, containment, decontamination, and/or clean up require the assistance of federal, state, county, or municipal response elements?	<input type="checkbox"/>	<input type="checkbox"/>
8. Was the release or threatened release involving an unknown material or contains an unknown hazardous constituent?	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the incident a threatened release (a condition creating a substantial probability of harm that requires immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment)?	<input type="checkbox"/>	<input type="checkbox"/>
10. Is there an increased potential for secondary effects including fire, explosion, line rupture, equipment failure, or other outcomes that may endanger or cause exposure to employees, the general public, or the environment?	<input type="checkbox"/>	<input type="checkbox"/>

If the answer is YES to any of the above questions – report the release to the California Office of Emergency Services at 800-852-7550 and the local CUPA daytime: (619) 338-2284, after hours: (858) 565-5255. Note: other state and federal agencies may require notification depending on the circumstances.

\*Call 911 in an emergency\*

If all answers are NO, complete a Non Reportable Release Incident Form (page 2 of 2) and keep readily available. Documenting why a “no” response was made to each question will serve useful in the event questions are asked in the future, and to justify not reporting to an outside regulatory agency.

If in doubt, report the release.

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<sup>1</sup> This document is a guide for accessing when hazardous materials release reporting is required by Chapter 6.95 of the California Health and Safety Code. It does not replace good judgment, Chapter 6.95, or other state or federal release reporting requirements.

# NON REPORTABLE RELEASE INCIDENT FORM

## 1. RELEASE AND RESPONSE DESCRIPTION

Incident # \_\_\_\_\_

Date/Time Discovered	Date/Time Discharge	Discharge Stopped <input type="checkbox"/> Yes <input type="checkbox"/> No
Incident Date / Time:		
Incident Business / Site Name:		
Incident Address:		
Other Locators (Bldg, Room, Oil Field, Lease, Well #, GIS)		
Please describe the incident and indicate specific causes and area affected. Photos Attached?: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicate actions to be taken to prevent similar releases from occurring in the future.		

## 2. ADMINISTRATIVE INFORMATION

Supervisor in charge at time of incident:	Phone:
Contact Person:	Phone:

## 3. CHEMICAL INFORMATION

Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT <sup>3</sup>
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT <sup>3</sup>
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT <sup>3</sup>
Clean-Up Procedures & Timeline:	
Completed By:	Phone:
Print Name:	Title:

**EMERGENCY RELEASE FOLLOW - UP NOTICE REPORTING FORM**

<b>A</b>	BUSINESS NAME	FACILITY EMERGENCY CONTACT & PHONE NUMBER ( ) -
<b>B</b>	INCIDENT DATE: MO   DAY   YR   TIME OES NOTIFIED (use 24 hr time)	OES CONTROL NO.
<b>C</b>	INCIDENT ADDRESS LOCATION	CITY / COMMUNITY COUNTY ZIP
<b>D</b>	CHEMICAL OR TRADE NAME (print or type)	CAS Number
<b>D</b>	CHECK IF CHEMICAL IS LISTED IN 40 CFR 355, APPENDIX A <input type="checkbox"/>	CHECK IF RELEASE REQUIRES NOTIFICATION UNDER 42 U.S.C. Section 9603 (a) <input type="checkbox"/>
<b>D</b>	PHYSICAL STATE CONTAINED: <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS	PHYSICAL STATE RELEASED: <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS
<b>D</b>	ENVIRONMENTAL CONTAMINATION: <input type="checkbox"/> AIR <input type="checkbox"/> WATER <input type="checkbox"/> GROUND <input type="checkbox"/> OTHER	TIME OF RELEASE: _____ DURATION OF RELEASE: _____ DAYS _____ HOURS _____ MINUTES
<b>E</b>	ACTIONS TAKEN	
<b>F</b>	KNOWN OR ANTICIPATED HEALTH EFFECTS (Use the comments section for addition information) <input type="checkbox"/> ACUTE OR IMMEDIATE (explain) _____ <input type="checkbox"/> CHRONIC OR DELAYED (explain) _____ <input type="checkbox"/> NOTKNOWN (explain) _____	
<b>G</b>	ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS	
<b>H</b>	COMMENTS (INDICATE SECTION (A - G) AND ITEM WITH COMMENTS OR ADDITIONAL INFORMATION)	
<b>I</b>	CERTIFICATION: I certify under penalty of law that I have personally examined and I am familiar with the information submitted and believe the submitted information is true, accurate, and complete. REPORTING FACILITY REPRESENTATIVE (print or type) _____ SIGNATURE OF REPORTING FACILITY REPRESENTATIVE _____ DATE: _____	

## **EMERGENCY RELEASE FOLLOW-UP NOTICE REPORTING FORM INSTRUCTIONS**

### **GENERAL INFORMATION:**

Chapter 6.95 of Division 20 of the California Health and Safety Code requires that written emergency release follow-up notices prepared pursuant to 42 U.S.C. § 11004, be submitted using this reporting form. Non-permitted releases of reportable quantities of Extremely Hazardous Substances (listed in 40 CFR 355, appendix A) or of chemicals that require release reporting under section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [42 U.S.C. § 9603(a)] must be reported on the form, as soon as practicable, but no later than 30 days, following a release. The written follow-up report is required in addition to the verbal notification.

### **BASIC INSTRUCTIONS:**

- The form, when filled out, reports follow-up information required by 42 U.S.C § 11004. Ensure that all information requested by the form is provided as completely as possible.
- If the incident involves reportable releases of more than one chemical, prepare one report form for each chemical released.
- If the incident involves a series of separate releases of chemical(s) at different times, the releases should be reported on separate reporting forms.

### **SPECIFIC INSTRUCTIONS:**

**Block A:** Enter the name of the business and the name and phone number of a contact person who can provide detailed facility information concerning the release.

**Block B:** Enter the date of the incident and the time that verbal notification was made to OES. The OES control number is provided to the caller by OES at the time verbal notification is made. Enter this control number in the space provided.

**Block C:** Provide information pertaining to the location where the release occurred. Include the street address, the city or community, the county and the zip code.

**Block D:** Provide information concerning the specific chemical that was released. Include the chemical or trade name and the Chemical Abstract Service (CAS) number. Check all categories that apply. Provide best available information on quantity, time and duration of the release.

**Block E:** Indicate all actions taken to respond to and contain the release as specified in 42 U.S.C. § 11004(c).

**Block F:** Check the categories that apply to the health effects that occurred or could result from the release. Provide an explanation or description of the effects in the space provided. Use Block H for additional comments/information if necessary to meet requirements specified in 42 U.S.C. § 11004(c).

**Block G:** Include information on the type of medical attention required for exposure to the chemical released. Indicate when and how this information was made available to individuals exposed and to medical personnel, if appropriate for the incident, as specified in 42 U.S.C. § 11004(c).

**Block H:** List any additional pertinent information.

**Block I:** Print or type the name of the facility representative submitting the report. Include the official signature and the date that the form was prepared.

### **MAIL THE COMPLETED REPORT TO:**

**State Emergency Response Commission (SERC)  
Attn: Section 304 Reports  
Hazardous Materials Unit  
3650 Schriever Avenue  
Mather, CA 95655**

**NOTE:** Authority cited: Sections 25503, 25503.1 and 25507.1, Health and Safety Code. Reference: Sections 25503(b)(4), 25503.1, 25507.1, 25518 and 25520, Health and Safety Code.

## APPENDIX G

### ADVANCED METERING INFRASTRUCTURE (AMI) DEVICE PROTECTION

## Protecting AMI Devices in Meter Boxes and on Street Lights

The Public Utilities Department (PUD) has begun the installation of the Advanced Metering Infrastructure (AMI) technology as a new tool to enhance water meter reading accuracy and efficiency, customer service and billing, and to be used by individual accounts to better manage the efficient use of water. **All AMI devices shall be protected per Section 5-2, "Protection", of the 2015 Whitebook.**

AMI technology allows water meters to be read electronically rather than through direct visual inspection by PUD field staff. This will assist PUD staff and customers in managing unusual consumption patterns which could indicate leaks or meter tampering on a customer's property.

Three of the main components of an AMI system are the:

- A. Endpoints, see Photo 1:

**Photo 1**



B. AMI Antenna attached to Endpoint (antenna not always required), see Photo 2:

**Photo 2**



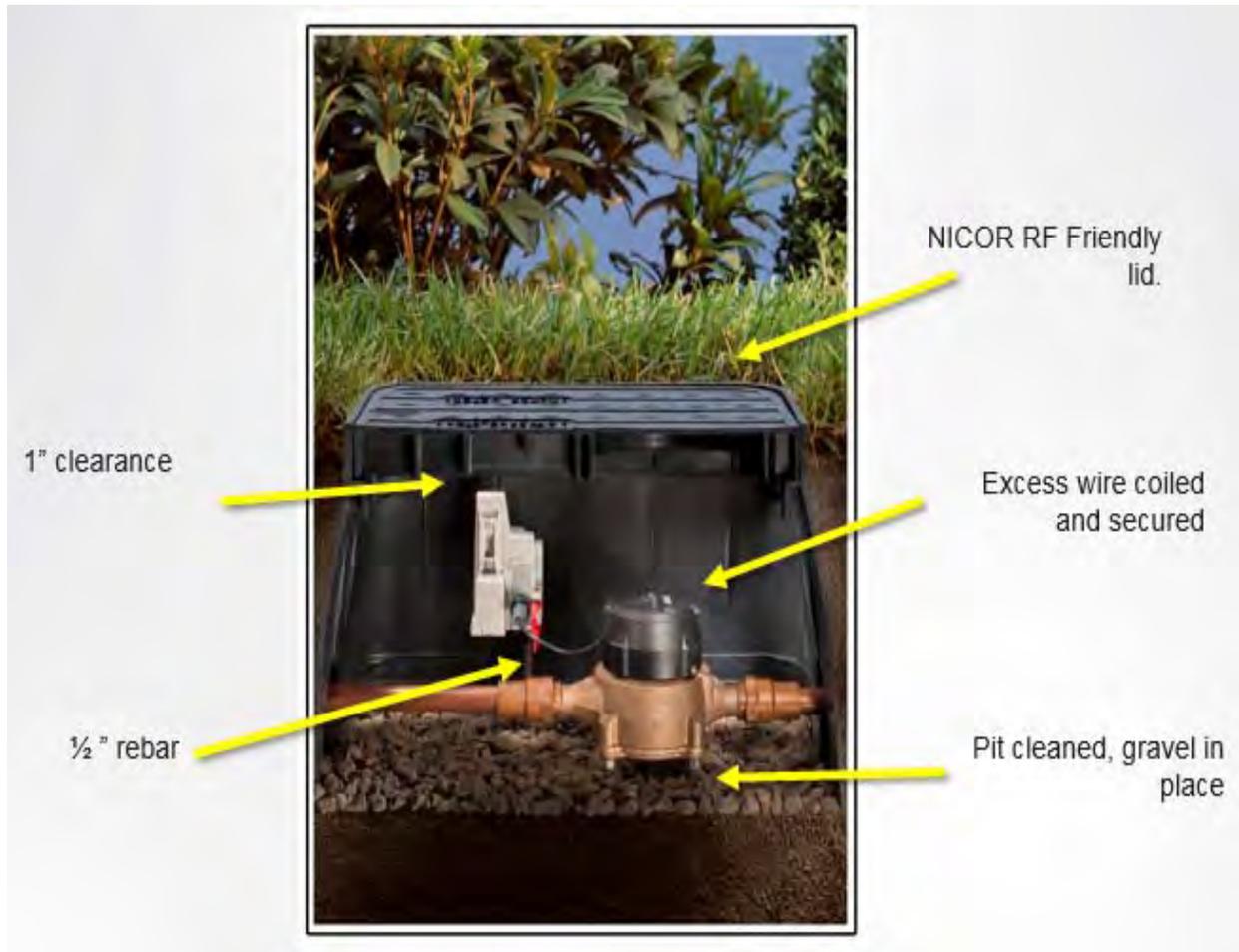
Network Devices, see Photo 3:

**Photo 3**



AMI endpoints transmit meter information to the AMI system and will soon be on the vast majority of meters in San Diego. These AMI devices provide interval consumption data to the PUD's Customer Support Division. If these devices are damaged or communication is interrupted, this Division will be alerted of the situation. The endpoints are installed in water meter boxes, coffins, and vaults adjacent to the meter. A separate flat round antenna may also be installed through the meter box lid. This antenna is connected to the endpoint via cable. The following proper installation shall be implemented when removing the lid to avoid damaging the antenna, cable, and/or endpoint. Photo 4 below demonstrates a diagram of the connection:

**Photo 4**



The AMI device ERT/Endpoint/Transmitter shall be positioned and installed as discussed in this Appendix. If the ERT/Endpoint/Transmitter is disturbed, it shall be re-installed and returned to its original installation with the end points pointed upwards as shown below in Photo 5.

**The PUD's code compliance staff will issue citations and invoices to you for any damaged AMI devices that are not re-installed as discussed in the Contract Document**

Photo 5 below shows a typical installation of an AMI endpoint on a water meter.

**Photo 5**

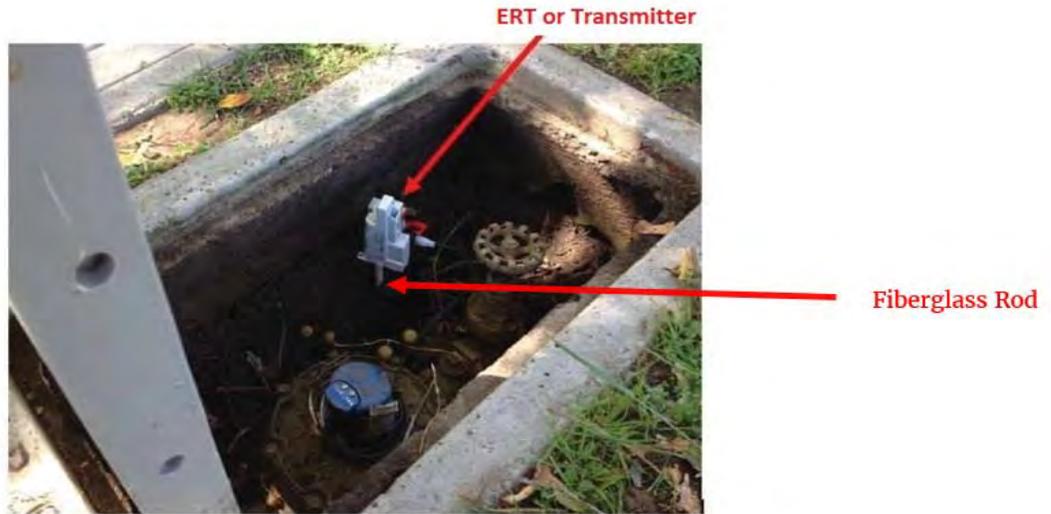


Photo 6 below is an example of disturbance that shall be avoided:

**Photo 6**



**You are responsible when working in and around meter boxes.** If you encounter these endpoints, use proper care and do not disconnect them from the registers on top of the water meter. If the lid has an antenna drilled through, do not change or tamper with the lid and inform the Resident Engineer immediately about the location of that lid. Refer to Photo 7 below:

**Photo 7**



Another component of the AMI system are the Network Devices. The Network Devices are strategically placed units (mainly on street light poles) that collect interval meter reading data from multiple meters for transmission to the Department Control Computer. **If you come across any of these devices on street lights that will be removed or replaced (refer to Photos 8 and 9 below), notify AMI Project Manager Arwa Sayed at (619) 362-0121 immediately.**

Photo 8 shows an installed network device on a street light. On the back of each Network Device is a sticker with contact information. See Photo 9. **Call PUD Water Emergency Repairs at 619-515-3525 if your work will impact these street lights.** These are assets that belong to the City of San Diego and you shall be responsible for any costs of disruption of this network.

**Photo 8**



**Network Device**

**Photo 9**



**If you encounter any bad installations, disconnected/broken/buried endpoints, or inadvertently damage any AMI devices or cables, notify the Resident Engineer immediately. The Resident Engineer will then immediately contact the AMI Project Manager, Arwa Sayed, at (619) 362-0121.**

**ATTACHMENT F**  
**SITE DEVELOPMENT PERMIT (SDP)**

**RECORDING REQUESTED BY**  
CITY OF SAN DIEGO  
DEVELOPMENT SERVICES  
PERMIT INTAKE, MAIL STATION  
501  
**WHEN RECORDED MAIL TO**  
**PROJECT MANAGEMENT**  
**PERMIT CLERK**  
**MAIL STATION 501**

WBS NUMBER

SPACE ABOVE THIS LINE FOR RECORDER'S USE

SITE DEVELOPMENT PERMIT NO. 1924573  
**NORTH UNIVERSITY FIRE STATION NO. 50 PROJECT NO. 463835 [MMRP]**  
DEVELOPMENT SERVICES

This Site Development Permit No. 1924573 is granted by the Development Services Department of the City of San Diego to City of San Diego Public Works Department, Owner/Permittee, pursuant to San Diego Municipal Code [SDMC] section 126.0504. The 0.94-acre development area is located in the RS 1-14 zone(s) of the University Community Plan. The project site is legally described as: a Portion of Pueblo Lot 1304 of the Pueblo Lands of San Diego, in the City of San Diego, County of San Diego, State of California, According to map thereof made by James Pascoe in 1870, A Copy of which map was filed in the office of San Diego County Recorder, November 14, 1921 and Misc. Map No 36.

Subject to the terms and conditions set forth in this Permit, permission is granted to City of San Diego to City of San Diego Public Works Department, Owner/Permittee to construct a new three story 16,077 square foot fire station ten fire personnel and equipment described and identified by size, dimension, quantity, type, and location on the approved exhibits [Exhibit "A"] dated [INSERT Approval Date], on file in the Development Services Department.

The project shall include:

- a. Construct a new three story 16,077 square foot fire station.  
"[i.e., type, overall square-footage and number of buildings]" ;
- b. Landscaping (planting, irrigation and landscape related improvements);
- c. Off-street parking;
- d. Retaining walls ; and
- e. Public and private accessory improvements determined by the Development Services Department to be consistent with the land use and development standards for this site in accordance with the adopted community plan, the California Environmental Quality Act [CEQA] and the CEQA Guidelines, the City Engineer's requirements, zoning regulations, conditions of this Permit, and any other applicable regulations of the SDMC.

**STANDARD REQUIREMENTS:**

1. This permit must be utilized within one hundred and twenty (120) months after the date on which all rights of appeal have expired. If this permit is not utilized in accordance with Chapter 12, Article 6, Division 1 of the SDMC within the 120 month period, this permit shall be void unless an Extension of Time has been granted. Any such Extension of Time must meet all SDMC requirements and applicable guidelines in effect at the time the extension is considered by the appropriate decision maker. This permit must be utilized by [ENTER DATE 10 years, including the appeal time].
2. No permit for the construction, occupancy, or operation of any facility or improvement described herein shall be granted, nor shall any activity authorized by this Permit be conducted on the premises until:
  - a. The Owner/Permittee signs and returns the Permit to the Development Services Department; and
  - b. The Permit is recorded in the Office of the San Diego County Recorder.
3. While this Permit is in effect, the subject property shall be used only for the purposes and under the terms and conditions set forth in this Permit unless otherwise authorized by the appropriate City decision maker.
4. This Permit is a covenant running with the subject property and all of the requirements and conditions of this Permit and related documents shall be binding upon the Owner/Permittee and any successor(s) in interest.
5. The continued use of this Permit shall be subject to the regulations of this and any other applicable governmental agency.
6. Issuance of this Permit by the City of San Diego does not authorize the Owner/Permittee for this Permit to violate any Federal, State or City laws, ordinances, regulations or policies including, but not limited to, the Endangered Species Act of 1973 [ESA] and any amendments thereto (16 U.S.C. § 1531 et seq.).
7. The Owner/Permittee shall secure all necessary building permits. The Owner/Permittee is informed that to secure these permits, substantial building modifications and site improvements may be required to comply with applicable building, fire, mechanical, and plumbing codes, and State and Federal disability access laws.
8. Construction plans shall be in substantial conformity to Exhibit "A." Changes, modifications, or alterations to the construction plans are prohibited unless appropriate application(s) or amendment(s) to this Permit have been granted.

9. All of the conditions contained in this Permit have been considered and were determined necessary to make the findings required for approval of this Permit. The Permit holder is required to comply with each and every condition in order to maintain the entitlements that are granted by this Permit.

#### **ENVIRONMENTAL/MITIGATION REQUIREMENTS:**

10. Mitigation requirements in the Mitigation, Monitoring, and Reporting Program [MMRP] shall apply to this Permit. These MMRP conditions are hereby incorporated into this Permit by reference.

11. The mitigation measures specified in the MMRP and outlined in Mitigated Negative Declaration, NO. 463835, shall be noted on the construction plans and specifications under the heading ENVIRONMENTAL MITIGATION REQUIREMENTS.

12. The Owner/Permittee shall comply with the MMRP as specified in Mitigated Negative Declaration, NO. 463835, to the satisfaction of the Development Services Department and the City Engineer. Prior to the issuance of the "Notice to Proceed" with construction, all conditions of the MMRP shall be adhered to, to the satisfaction of the City Engineer. All mitigation measures described in the MMRP shall be implemented for the following issue areas: **Historical Resources (Archaeology), Paleontological Resources, Biological Resources and Land Use.**

#### **AIRPORT REQUIREMENTS:**

13. Prior to the issuance of any building permits, the Owner/Permittee shall provide a copy of the signed agreement [DS-503] and show certification on the building plans verifying that the structures do not require Federal Aviation Administration [FAA] notice for Determination of No Hazard to Air Navigation, or provide an FAA Determination of No Hazard to Air Navigation as specified in Information Bulletin 520.

#### **GEOLOGY:**

14. Prior to the issuance of any construction permits (building permits), the Owner/Permittee shall submit an addendum geotechnical investigation report that provides a design-level infiltration investigation per the Storm Water Standards that includes geotechnical hazard analyses, discussion of mitigation measures, and design recommendations, as well as an updated and fully completed Worksheet C.4-1. The addendum geotechnical investigation report shall be reviewed for adequacy by the Geology Section of Development Services.

#### **ENGINEERING REQUIREMENTS:**

15. All excavated material listed to be exported, shall be exported to a legal disposal site in accordance with the Standard Specifications for Public Works Construction (the "Green Book"), 2015 edition and Regional Supplement Amendments adopted by Regional Standards Committee.

16. The drainage system proposed for this development, as shown on the site plan, is public and subject to approval by the City Engineer.

17. All Public Improvements shall be constructed per approved Exhibit 'A' and satisfactory to the City Engineer.
18. The project shall incorporate any construction Best Management Practices necessary to comply with Chapter 14, Article 2, Division 1 (Grading Regulations) of the SDMC, into the construction plans or specifications.
19. Project shall prepare a Technical Report that will be subject to final review and approval by the City Engineer, based on the Storm Water Standards in effect at the time of the construction permit issuance.
20. Project shall prepare a Water Pollution Control Plan (WPCP). The WPCP shall be prepared in accordance with the guidelines in Part 2 Construction BMP Standards Chapter 4 of the City's Storm Water Standards.

**LANDSCAPE REQUIREMENTS:**

21. Prior to the preconstruction meeting or "Notice to Proceed", the Owner/Permittee shall submit to Development Services Department complete construction documents for the revegetation and hydroseeding of all disturbed land in accordance with the Landscape Standards and to the satisfaction of the Development Services Department. All plans shall be in substantial conformance to this permit (including Environmental conditions) and Exhibit 'A,' on file in the Office of the Development Services Department.
22. Prior to the preconstruction meeting or "Notice to Proceed", the Owner/Permittee shall submit complete Landscape Construction Documents showing the brush management zones on the property in substantial conformance with Exhibit 'A' in accordance with the Landscape Standards and to the satisfaction of the Development Services Department.
23. Prior to the preconstruction meeting or "Notice to Proceed" with any right-of-way improvements, the Owner/Permittee shall submit complete landscape construction documents for right-of-way improvements to the Development Services Department for approval. Improvement plans shall show, label, and dimension a 40 square foot area around each tree which is unencumbered by utilities. Driveways, utilities, drains, water and sewer laterals shall be designed so as not to prohibit the placement of street trees.
24. In the event that a foundation only permit is requested, the Owner/Permittee shall submit a site plan or staking layout plan identifying all landscape areas consistent with Exhibit 'A,' Landscape Development Plan, on file in the Office of the Development Services Department. These landscape areas shall be clearly identified with a distinct symbol, noted with dimensions and labeled as 'landscaping area.'

25. Prior to the issuance of any construction permits for structures, the Owner/Permittee shall submit complete landscape and irrigation construction documents consistent with the Landscape Standards to the Development Services Department for approval. The construction documents shall be in substantial conformance with Exhibit 'A,' Landscape Development Plan, on file in the Development Services Department. Construction plans shall show, label, and dimension a 40 square foot area around each tree which is unencumbered by hardscape and utilities as set forth under LDC 142.0403(b)(5).

26. Prior to issuance of any construction permits for structures, the Owner/Permittee shall submit a water budget in accordance with the Water Conservation Requirements per SDMC 142.0413, Table 142-04I, to be included with the construction documents. An irrigation audit shall be submitted consistent with Section 2.7 of the Landscape Standards of the Land Development Manual at final inspection. The irrigation audit shall certify that all irrigation systems have been installed and operate as approved by the Development Services Department.

27. The Owner/Permittee shall be responsible for the maintenance of all landscape improvements shown on the approved plans, including in the right-of-way, consistent with the Landscape Standards unless long-term maintenance of said landscaping will be the responsibility of a Landscape Maintenance District or other approved entity. All required landscape shall be maintained in a disease, weed and litter free condition at all times. Severe pruning or "topping" of trees is not permitted unless specifically noted in this Permit.

28. If any required landscape (including existing or new plantings, hardscape, landscape features, etc.) indicated on the approved construction document plans is damaged or removed during demolition or construction, the Owner/Permittee shall repair and/or replace it in kind and equivalent size per the approved documents to the satisfaction of the Development Services Department within 30 days of damage.

**MULTIPLE SPECIES CONSERVATION PROGRAM:**

29. All private outdoor lighting shall be shaded and adjusted to fall on the same premises where such lights are located and in accordance with the applicable regulations in the SDMC.

**TRANSPORTATION REQUIREMENTS**

30. The Owner/Permittee shall the construct a traffic signal at the intersection of Fire Station No. 50 driveway and Nobel Drive, with signal interconnect to the adjacent traffic signals, satisfactory to the City Engineer. This traffic signal shall be completed and accepted by the City Engineer prior to the issuance of the first certificate of occupancy for the project.

31. The Owner/Permittee shall the construct a commercial driveway on Shoreline Drive and an exit only restricted access commercial driveway on Nobel Drive per Exhibit "A," satisfactory to the City Engineer. These driveways shall be completed and accepted by the City Engineer prior to the issuance of the first certificate of occupancy for the project.

32. Parking spaces east of apparatus bay should be signed as “Employee Only” parking since the spaces cannot be accessed by the public.

**INFORMATION ONLY:**

- The issuance of this discretionary permit alone does not allow the immediate commencement or continued operation of the proposed use on site. Any operation allowed by this discretionary permit may only begin or recommence after all conditions listed on this permit are fully completed and all required ministerial permits have been issued and received final inspection.
- Any party on whom fees, dedications, reservations, or other exactions have been imposed as conditions of approval of this Permit, may protest the imposition within ninety days of the approval of this development permit by filing a written protest with the City Clerk pursuant to California Government Code-section 66020.

APPROVED by the Development Services Department of the City of San Diego on [INSERT Approval Date] and [Approved Resolution Number].

AUTHENTICATED BY THE CITY OF SAN DIEGO DEVELOPMENT SERVICES DEPARTMENT

\_\_\_\_\_  
Helene Deisher  
Development Project Manager

**NOTE: Notary acknowledgment must be attached per Civil Code section 1189 et seq.**

\_\_\_\_\_  
**The undersigned Owner/Permittee**, by execution hereof, agrees to each and every condition of this Permit and promises to perform each and every obligation of Owner/Permittee hereunder.

City of San Diego, Public Works Department  
Owner/Permittee

By \_\_\_\_\_  
NAME  
TITLE

**NOTE: Notary acknowledgments must be attached per Civil Code section 1189 et seq.**

**ATTACHMENT G**  
**EVALUATION AND SELECTION**

## EVALUATION AND SELECTION

Proposals will be ranked according to the criteria described below:

### 1. Addenda to this RFP – Pass / Fail

- 1.1. The Proposer shall acknowledge each addendum issued in connection with this RFP, by listing all issued addenda on an Addenda Acknowledgement sheet to be submitted with the Proposal. Failure to acknowledge all issued addenda may result in the Proposal being considered **non-responsive** and ineligible for further consideration.
- 1.2. Including copies of addenda with the Proposal shall not constitute acknowledgement of issued addenda.

### 2. Proposer Exceptions to this RFP – Pass / Fail

- 2.1. If the Proposer takes exception to any portion of the contract terms, the Proposer must identify and explain to the City in writing the basis for the exception. The Proposer must submit any claimed exception a minimum of 10 calendar days prior to the due date for submission of Proposals. Exceptions taken after the submission period for this RFP may be cause for rejection of the Proposal as being **non-responsive**.

### 3. Summary of Proposal (5 Points Max)

- 3.1. Each Proposer must submit a one to two page summary of its Proposal.

### 4. Project Team (5 Points Max)

- 4.1. (0-2 points) Describe the proposed management plan for this Project. Describe the qualifications of key proposed construction and technical personnel, and subcontractors, from applicable fields including the following:
  - 4.1.1. Construction Management Team
  - 4.1.2. Architectural
  - 4.1.3. Civil
  - 4.1.4. Structural
  - 4.1.5. Mechanical & Plumbing
  - 4.1.6. Electrical
  - 4.1.7. Instrumentation and Controls
  - 4.1.8. Environmental
  - 4.1.9. Geotechnical
  - 4.1.10. LEED

- 4.1.11. Landscape
- 4.1.12. Fire Protection
- 4.1.13. Security
- 4.2. (0-3 points) Describe the Teaming Plan/Agreement: what is the management plan and structure of the team, how does the team resolve conflicts and RFI's? What is the communication protocol of the team? What are the QA/QC protocols for the team?

**5. Technical Approach and Design Concept (30 Points Max)**

- 5.1. Describe in detail the proposed design concept for this Project. Include detailed descriptions, conceptual design drawings, schematics, a list of major equipment, and any other information deemed necessary to allow the City to make an informed evaluation of the Proposer's technical approach. The completeness and technical merit of the design concept will be evaluated.
- 5.2. The following elements shall be included in this Technical Proposal:
  - 5.2.1. Proposed Design (0-5 points) – Describe the proposed design concept outlined in the RFP program. The City wants to encourage design and construction creativity within the limits of the project budget, schedule and concept.
  - 5.2.2. Durability and Ease of Maintenance (0-4 points) – Minimum requirements for functional life expectancy and durability are described in the RFP program. Points will be awarded based on the service life proposed by the design builder.
  - 5.2.3. Aesthetics and Functionality (0-3 points) – Describe the building design, architecture, aesthetics, and functionality in accordance with the RFP program.
  - 5.2.4. Delivery Method (0-4 points) Describe how the team will take advantage of the Design/Build delivery method.
  - 5.2.5. LEED (0-2 points) – Silver is a minimum requirement, therefore 1 point will be awarded if LEED Gold is proposed, and 1 additional point (for the total of 2 points) will be awarded if LEED Platinum is proposed.
  - 5.2.6. Building Commissioning (0-5 points) – Provide detailed commissioning plan. Describe how commissioning plan is incorporated and updated through the design process to the completion of the project.
  - 5.2.7. Site Layout (0-2 points) –Site layout of all improvements shall give special consideration to the following:
    - 5.2.7.1. Identification and access to main public entrance
    - 5.2.7.2. Landscape integration with building design

- 5.2.8. Programmatic/Design Enhancements (0-5 points) – Any opportunity to provide more than the RFP program or if the Design/Builder has the opportunity to provide something of benefit to fire department; such as but not limited to efficiencies in operations and maintenance, and latest technologies or trends in design and operations.

**6. Construction Plan (25 Points Max)**

- 6.1. Describe the proposed construction plan for this Project, including the following, at a minimum:
  - 6.1.1. Construction approach and methods
  - 6.1.2. Plan for phasing of construction activities
  - 6.1.3. General plan for functional testing and start-up
  - 6.1.4. Proposed safety program
  - 6.1.5. Proposed emergency response plan
  - 6.1.6. Proposed construction schedule
  - 6.1.7. Community Impact (Noise and Pollution)

**7. Equal Employment and Contracting Opportunity (25 Points Max)**

- 7.1. Failure to submit the required EOCP information will result in Proposal being determined as **non-responsive**.
- 7.2. Subcontractor Documentation
  - 7.2.1. The Proposer shall, at a minimum, provide with its Price Proposal a listing of at least 3 of the largest Subcontractors (constructors only) for the Project and all other Subcontractors (design professionals, etc.) that are known at the time it submits its Proposal using form AA05 and AA25. **Note:** Subcontractors include design professionals, as well.
  - 7.2.2. Work which requires Subcontractors that are not listed by Proposer at time of Award shall be let by Proposer in accordance with a competitive bidding process performed solely at Proposer's expense. Proposer shall provide public notice of the availability of the Work to be subcontracted, obtain competitive bids, and provide a fixed date and time on which the subcontracted work will be awarded. Subcontractors bidding on subcontracts pursuant to this provision shall be afforded the protection of all applicable laws, including Public Contract Code sections 4100 through 4114, inclusive.

- 7.2.3. The Proposer may select Subcontractors and Suppliers in one of 3 competitive ways i.e., lowest responsible bidder, best value for price and qualifications, or highest qualifications. Prior to construction NTP, the Proposer shall do the following:
- 7.2.3.1. Submit the selection method used to the City in accordance with 2-5.3, "Submittals."
  - 7.2.3.2. Pre-qualify Subcontractors and Suppliers, in a manner at least as stringent as the City's pre-qualification standards.
  - 7.2.3.3. Review the Subcontractors and Suppliers ultimately chosen to verify that that they have not been debarred and are in good standing as a licensed contractor in California.
- 7.2.4. Open all Subcontract bids and provide to the City one copy without reservation or redaction. All records relevant to the award and performance of Subcontractors and Suppliers shall be public and provided to the City upon request and without redaction. The City may administer bidding itself for Subcontractors and Suppliers, or to direct the bidding procedures to be used by the Proposer.
- 7.2.5. The Proposer may use its corporate-generated subcontractor agreement to retain Subcontractors or Suppliers, provided the subcontractor agreement contains the terms required to be included in Subcontracts by this Contract.

The points will be awarded according to the chart below, based upon actual subcontract award amounts, as set forth in the price proposals.		<b>MAXIMUM POSSIBLE POINTS</b>
<b>OUTCOME</b>		
1	5% - 9% participation SLBE, ELBE or DVBE	5
2	10%-14% participation SLBE, ELBE or DVBE	10
3	15%-19% participation SLBE, ELBE or DVBE	15
4	20%-24% participation SLBE, ELBE or DVBE	20
5	25% participation SLBE, ELBE or DVBE	25
In no case the points shall exceed 25.		

**8. Presentation and Interview (10 Points Max) AT PM's DISCRETION – INSERT CRITERIA**

8.1 Evaluation of Design-Builder Team qualifications, experience, proposal and presentation.

**9. Reference Checks (5 Points Max)**

9.1 Provide name and phone numbers of your clients who you have completed three (3) Design -Build projects. Include project type and value of completed construction.

**TOTAL POINTS: 105**

**10. Review of Technical Proposal**

10.1. Following the receipt of the Technical Proposal, the City anticipates allotting 2 weeks for review of the Technical Proposals.

10.2. Subsequent to receipt, the City will provide written notice of the schedule for technical presentations. The purpose of the presentations is to allow the Panel to ask questions and to seek clarifications about the Proposal. It also provides an opportunity for the Design-Builders to elaborate on and highlight significant parts of their Proposals. This schedule will be on a random draw basis and has no bearing on the potential for award or other significance.

10.2.1. Interviews will consist of thirty (30) minute presentations by each Design-Builder; and (30) minutes for questions and answers. The presentations shall be given by the Design-Builders' key personnel who will be continuously involved on site or in San Diego in proportion to their level of involvement.

10.2.2. The Design-Builders are responsible for bringing any and all equipment and materials that are required for the presentation. The City will not provide any equipment or materials for presentations.

**11. Final Selection Based On Adjusted Low Proposal**

a. The ranking of each Design-Builder during the Technical Proposal review and the interviews will serve as the divisor of the Price Proposal and determine the weighted price.

b. Following review of the Technical Proposals and the presentations/interviews, the resulting qualitative evaluation scores will be totaled, averaged and converted to a decimal. The Proposal price will then be divided by the scores from the Technical Proposals. This becomes the Adjusted Low Proposal. The lowest adjusted proposal will be recommended for contract award. The adjustment to the Price Proposal is for selection purposes only. The Price Proposal as submitted is the actual Contract Price.

c. The following example illustrates the process:

Design-Builder	Qualitative Score (100 Maximum)	Price Proposal	Adjusted Price *
A	0.85	\$1,000,000.00	\$1,176,471
B	0.95	\$1,300,000.00	\$1,368,421
C	0.65	\$900,000.00	\$1,384,615
<p>* The adjustment to the Proposal is for selection only. Firm "A" has Adjusted Lowest Proposal. The Price Proposal is the actual Contract amount.</p>			

**ATTACHMENT H**  
**PRICE PROPOSAL FORMS (COST ESTIMATE)**

## PRICE PROPOSAL FORMS

The Design-Builder agrees to the design and construction of **North University City Fire Station 50 Design-Build**, for the City of San Diego, in accordance with these contract documents for the lump sum price listed below. The Design-Builder guarantees the proposed prices for a period of 120 Days from the date Proposals are due until the award of the **North University City Fire Station 50 Design-Build** Contract. The duration of the price guarantee may be extended as required by mutual consent.

Item No.	NAICS CODE	Description	Quantity	D*	Unit	Unit Price	Extension
<b>BASE PROPOSAL</b>							
1	524126	Bonds (Payment and Performance)	1		LS	98,811.00	\$ 98,811.00
2	541330	Engineering and Design Services	1	D	LS	999,336.00	\$ 999,336.00
3	236220	Construction Services	1		LS	8,446,379.00	\$ 8,446,379.00
4	541330	WPCP Development	1		LS	9,035.00	\$ 9,035.00
5	237990	WPCP Implementation	1		LS	63,865.00	\$ 63,865.00
6	561730	Revegetation Installation	1		LS	157,803.00	\$ 157,803.00
7	561730	120 Day Plant Establishment Period for Revegetation and Creation and Restoration	1		LS	25,297.00	\$ 25,297.00
8	236220	90 Day Plant Establishment Period for all irrigated landscape	1		LS	9,900.00	\$ 9,900.00
9	561730	<del>Revegetation Maintenance and Monitoring Program (5 Years)</del> <u>60 Month Restoration Maintenance and Monitoring Program</u>	1		LS	63,800.00	\$ 63,800.00

**PRICE PROPOSAL FORMS**

<b>Item No.</b>	<b>NAICS CODE</b>	<b>Description</b>	<b>Quantity</b>	<b>D*</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extension</b>
10	561730	Revegetation Maintenance and Monitoring Program (25 Months)  25 Month Revegetation Maintenance and Monitoring Program	1		LS	7,700.00	\$ 7,700.00
11	561730	Contingency for 5 Year & 25 Month Revegetation Maintenance (EOCP Type II)	1		AL		\$30,000
12	236220	Plan Checking and Permits Fees - (EOCP Type I)	1		AL		\$120,000
13	238210	Wet and Dry Utilities Fees - (EOCP Type I)	1		AL		\$120,000
14	236220	City Contingency/Field Orders - (EOCP Type II)	1		AL		\$400,000
15	236220	Furnishing, Fixtures & Equipment (FF&E) - (EOCP Type I)	1		AL		\$130,000
16	541690	Archeological and Native American Monitoring Program	1		LS	25,574.00	\$ 25,574.00
17	541690	Paleontological Monitoring Program	1		LS	12,506.00	\$ 12,506.00
18	541330	Biological Monitoring Program	1		LS	43,109.00	\$ 43,109.00
<b>TOTAL DESIGN-BUILD BASE PROPOSAL (ITEMS NO 1 THROUGH 18 INCLUSIVE):</b>							<b>\$10,763,115.00</b>

**\* Design Element (For City Use)**

**PRICE PROPOSAL FORMS**

Total Price for Design-Build Proposal, (items 1 through 18, inclusive) amount written in words:

Ten Million Seven Hundred Sixty Three Thousand One Hundred Fifteen Dollars and No Cents

Design-Builder: RABC-ECC A Joint Venture

Title: R. A. Burch - JV Partner

Signature: 

The names of all persons interested in the foregoing proposal as principals are as follows:

Robert Burch - JV Partner

Jim Summers - JV Partner

IMPORTANT NOTICE: If Design-Builder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Design-Builder or other interested person is an individual, state first and last names in full.

## PRICE PROPOSAL FORMS

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### NOTES:

- A. The Contract Price to be used in the selection process as described in Attachment G of the RFP will be determined by the base proposal alone.
- B. Prices and notations shall be in ink or typewritten. All corrections (which have been initiated by the Design-Builder using erasures, strike out, line out, or "white-out") shall be typed or written in with ink adjacent thereto, and shall be initialed in ink by the person signing the Proposal.
- C. Failure to initial all corrections made in the proposal documents may cause the Proposal to be rejected as **non-responsive** and ineligible for award.
- D. Blank spaces must be filled in. The Design-Builder's failure to submit a price may render the Proposal **non-responsive** and ineligible for award.
- E. Unit prices shall be entered for all unit price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceed two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.
- F. All extensions of the unit prices will be subject to verification by the City. In the case of inconsistency or conflict between the product of the Quantity x Unit Price and the Extension, the product shall govern.
- G. In the case of inconsistency or conflict, between the sums of the extensions with the total proposal price, the sum of the extensions shall govern.
- H. Proposals shall not contain any recapitulation of the Work. Conditional Proposals may be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.
- I. Subcontractors' License Numbers must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

**PRICE PROPOSAL FORMS**

**DESIGN-BUILD LIST OF SUBCONTRACTORS TO BE INCLUDED IN THE PRICE PROPOSAL ONLY**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the Public Contract Code (PCC), The Design-Builder is to list below the name and address of each Subcontractor who will perform work, labor, render services or specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Design-Builder's total Bid. The Design-Builder is to list below the portion of the work which will be done by each Subcontractor. The Design-Builder is to list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed by the Subcontractor is to be stated for all Subcontractors listed. Failure to comply with the listing of the Subcontractors as specified may result in the Bid being rejected as non-responsive and ineligible for award. The Design-Builder is to list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, WoSB, SDB, HUBZone, and SDVOSB Subcontractors that Design-Builder are seeking recognition towards achieving any subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	DIR Registration Number	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>①</sup>	WHERE CERTIFIED <sup>②</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
Name: <u>Platt/Whitelaw Architects, Inc.</u> Address: <u>4034 30th Street</u> City: <u>San Diego</u> State: <u>CA</u> Zip: <u>92104</u> Phone: _____ Email: <u>PWA@plattwhitelaw.com</u>	1000018271	Designer	Alison W. C10375 Naveen W. C33668	Lead Design Firm	\$ 834,300	SLBE	City of San Diego	
Name: <u>Habitat Restoration Sciences, Inc.</u> Address: <u>1217 Distribution Way</u> City: <u>Vista</u> State: <u>CA</u> Zip: <u>92081</u> Phone: <u>760-479-4210</u> Email: <u>kmatthews@hrs.dudek.com</u>	1000003125	Constructor	842661	Restoration and Revegetation	\$ 290,808			

① As appropriate, Design-Builder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

- |   |        |  |         |
|---|--------|--|---------|
| Certified Minority Business Enterprise        | MBE    | Certified Woman Business Enterprise            | WBE     |
| Certified Disadvantaged Business Enterprise   | DBE    | Certified Disabled Veteran Business Enterprise | DVBE    |
| Other Business Enterprise                     | OBE    | Certified Emerging Local Business Enterprise   | ELBE    |
| Certified Small Local Business Enterprise     | SLBE   | Small Disadvantaged Business                   | SDB     |
| Woman-Owned Small Business                    | WoSB   | HUBZone Business                               | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSB |  |         |

② As appropriate, Design-Builder shall indicate if Subcontractor is certified by:

- |  |        |  |          |
|--|--------|--|----------|
| City of San Diego                                    | CITY   | State of California Department of Transportation       | CALTRANS |
| California Public Utilities Commission               | CPUC   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| State of California's Department of General Services | CADoGS | City of Los Angeles                                    | LA       |
| State of California                                  | CA     | U.S. Small Business Administration                     | SBA      |

**The Design-Builder will not receive any subcontracting participation percentages if the Design-Builder fails to submit the required proof of certification.**

**PRICE PROPOSAL FORMS**

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Name: <u>BTS Equipment Unlimited</u> Address: <u>13465 Camino Canada</u> City: <u>El Cajon</u> State: <u>CA</u> Zip: <u>92021</u> Phone: <u>619-324-7065</u> Email: <u>awatt@btsequipmentunlimited.com</u>	1000023875	Constructor	907777	Earthwork	\$226,592			
Name: <u>Quality Rebar, Inc</u> Address: <u>PO Box 501877</u> City: <u>San Diego</u> State: <u>CA</u> Zip: <u>92150</u> Phone: <u>858-679-3934</u> Email: <u>clong@qualityreinforcing.com</u>	1000000745	Constructor	818593	Reinforcing Steel	\$133,137			

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Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Design-Builder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

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Name: Hurricane & Poway Fence Address: PO Box 1636 City: Ramona State: CA Zip: 92065 Phone: 760-789-4142 Email: laurann@usa.net	1000011357	Constructor	891123	Fence & Gates	\$ 103,318	SLBE	City of San Diego	
Name: Richardson Steel Inc. Address: 9102 Harness St. City: Spring Valley State: CA Zip: 91977 Phone: 619-697-5892 Email: Bobcarson@richardsonsteelinc.com	1000000243	Constructor	756989	Structural Steel	\$ 191,450			

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Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

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Name: <u>Arce Custom Cabinets Inc.</u> Address: <u>PO Box 180</u> City: <u>Lakeside</u> State: <u>CA</u> Zip: <u>92040</u> Phone: <u>619-781-8160</u> Email: <u>arcecabinets@hotmail.com</u>	1000005414	Constructor	930618	Casework	\$ 145,468	SLBE	City of San Diego	
Name: <u>Commercial Openings</u> Address: <u>9711 Cactus St.</u> City: <u>Lakeside</u> State: <u>CA</u> Zip: <u>92040</u> Phone: <u>619-258-1703</u> Email: <u>josh@coddoors.com</u>	1000002898	Constructor	878161	Doors & Frames	\$ 77,627			

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Name: <u>Centex Glazing</u> Address: <u>8260 Commercial St.</u> City: <u>La Mesa</u> State: <u>CA</u> Zip: <u>91942</u> Phone: <u>619-644-1981</u> Email: <u>mark@centexglazing.com</u>	1000005393	Constructor	806989	Glazing	\$ 210,995			
Name: <u>E.L. Hobbs</u> Address: <u>2846 Viejas View Place</u> City: <u>Alpine</u> State: <u>CA</u> Zip: <u>91901</u> Phone: <u>619-401-1708</u> Email: <u>ehobbs@elhobbsin.com</u>	1000004428	Constructor	777073	Gypsum and Plaster	\$ 228,600	SLBE	City of San Diego	

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**DESIGN-BUILD LIST OF SUBCONTRACTORS TO BE INCLUDED IN THE PRICE PROPOSAL ONLY**

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NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	DIR Registration Number	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>①</sup>	WHERE CERTIFIED <sup>②</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
Name: Thyssenkrupp Elevator Address: 1965 Gillespie Way Ste 101 City: El Cajon State: CA Zip: 92020 Phone: 619-596-7220 Email: john.swilley@thyssenkrupp.com	1000002104	Constructor	651371	Elevator	\$ 149,481			
Name: Mathews Mechanical Address: 2428 Mandarin Dr. City: Corona State: CA Zip: 92879 Phone: 951-284-5542 Email: brian@mathewsmechanical.com	1000006955	Constructor	886716	Mechanical	\$ 345,000			

① As appropriate, Design-Builder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Design-Builder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Design-Builder will not receive any subcontracting participation percentages if the Design-Builder fails to submit the required proof of certification.**

**PRICE PROPOSAL FORMS**

**DESIGN-BUILD LIST OF SUBCONTRACTORS TO BE INCLUDED IN THE PRICE PROPOSAL ONLY**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the Public Contract Code (PCC), The Design-Builder is to list below the name and address of each Subcontractor who will perform work, labor, render services or specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Design-Builder's total Bid. The Design-Builder is to list below the portion of the work which will be done by each Subcontractor. The Design-Builder is to list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed by the Subcontractor is to be stated for all Subcontractors listed. Failure to comply with the listing of the Subcontractors as specified may result in the Bid being rejected as non-responsive and ineligible for award. The Design-Builder is to list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, WoSB, SDB, HUBZone, and SDVOSB Subcontractors that Design-Builder are seeking recognition towards achieving any subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	DIR Registration Number	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>①</sup>	WHERE CERTIFIED <sup>②</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
Name: <u>A-1 Fire Protection</u> Address: <u>8655 Miramar Place</u> City: <u>San Diego</u> State: <u>CA</u> Zip: <u>92121</u> Phone: <u>858-623-2733</u> Email: <u>john@a1fpi.com</u>	1000002910	Constructor	388358	Fire Sprinklers	\$ 85,315	SLBE	City of San Diego	
Name: <u>Barrack-Nickols Contracting</u> Address: <u>PO Box 3003</u> City: <u>Spring Valley</u> State: <u>CA</u> Zip: <u>91979</u> Phone: <u>619-562-2105</u> Email: <u>Mike@barrack-nickols.com</u>	1000025113	Constructor	862897	Plumbing	\$ 351,500	SLBE	City of San Diego	

① As appropriate, Design-Builder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Design-Builder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Design-Builder will not receive any subcontracting participation percentages if the Design-Builder fails to submit the required proof of certification.**

**PRICE PROPOSAL FORMS**

**DESIGN-BUILD LIST OF SUBCONTRACTORS TO BE INCLUDED IN THE PRICE PROPOSAL ONLY**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the Public Contract Code (PCC), The Design-Builder is to list below the name and address of each Subcontractor who will perform work, labor, render services or specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Design-Builder's total Bid. The Design-Builder is to list below the portion of the work which will be done by each Subcontractor. The Design-Builder is to list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed by the Subcontractor is to be stated for all Subcontractors listed. Failure to comply with the listing of the Subcontractors as specified may result in the Bid being rejected as non-responsive and ineligible for award. The Design-Builder is to list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, WoSB, SDB, HUBZone, and SDVOSB Subcontractors that Design-Builder are seeking recognition towards achieving any subcontracting participation percentages.

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Name: AAIR Purification Systems Address: 9040 Kenamar Dr. Ste 402 City: San Diego State: CA Zip: 92121 Phone: 858-578-2825 Email: terryaps@aol.com	1000030031	Constructor	621360	Vehicle Exhaust Removal	\$ 69,635			
Name: Performance Automation Address: 10633 ROSELLE STE G City: San Diego State: CA Zip: 92121 Phone: 858-391-6400 Email: Michael@pascontrols.com	1000025467	Constructor	946532	Building Controls	\$ 79,500	SLBE	City of San Diego	

① As appropriate, Design-Builder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

- |   |        |  |         |
|---|--------|--|---------|
| Certified Minority Business Enterprise        | MBE    | Certified Woman Business Enterprise            | WBE     |
| Certified Disadvantaged Business Enterprise   | DBE    | Certified Disabled Veteran Business Enterprise | DVBE    |
| Other Business Enterprise                     | OBE    | Certified Emerging Local Business Enterprise   | ELBE    |
| Certified Small Local Business Enterprise     | SLBE   | Small Disadvantaged Business                   | SDB     |
| Woman-Owned Small Business                    | WoSB   | HUBZone Business                               | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSB |  |         |

② As appropriate, Design-Builder shall indicate if Subcontractor is certified by:

- |  |        |  |          |
|--|--------|--|----------|
| City of San Diego                                    | CITY   | State of California Department of Transportation       | CALTRANS |
| California Public Utilities Commission               | CPUC   | San Diego Regional Minority Supplier Diversity Council | SRMSDC   |
| State of California's Department of General Services | CADoGS | City of Los Angeles                                    | LA       |
| State of California                                  | CA     | U.S. Small Business Administration                     | SBA      |

**The Design-Builder will not receive any subcontracting participation percentages if the Design-Builder fails to submit the required proof of certification.**

**PRICE PROPOSAL FORMS**

**DESIGN-BUILD LIST OF SUBCONTRACTORS TO BE INCLUDED IN THE PRICE PROPOSAL ONLY**

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Name: <u>SJ Electric</u> Address: <u>1206 Sangamon Ave</u> City: <u>Spring Valley</u> State: <u>CA</u> Zip: <u>91977</u> Phone: <u>619-592-2083</u> Email: <u>sjelectric@cox.net</u>	1000006133	Constructor	994033	Electrical	\$ 873,800	SLBE	City of San Diego	
Name: <u>Tyco Simplex</u> Address: <u>3568 Ruffin Rd South</u> City: <u>San Diego</u> State: <u>CA</u> Zip: <u>92123</u> Phone: <u>858-633-9100</u> Email: <u>dadonofrio@simplexgrinnell.com</u>	100000576	Constructor	986047	Fire Alarm	\$ 40,000			

① As appropriate, Design-Builder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Design-Builder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

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**PRICE PROPOSAL FORMS**

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Name: Tyco Simplex Address: 3568 Ruffin Rd South City: San Diego State: CA Zip: 92123 Phone: 858-633-9100 Email: dadonofrio@simplexgrinnell.com	100000576	Constructor	986047	Security	\$ 59,000			
Name: Bergelectric Corp Address: 650 Opper St. City: Escondido State: CA Zip: 92029 Phone: 760-746-1003 Email: kdehne@bergelectric.com	100000328	Constructor	85046	Station Alerting	\$ 97,044			

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Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
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**PRICE PROPOSAL FORMS**

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NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	DIR Registration Number	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>①</sup>	WHERE CERTIFIED <sup>②</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
Name: Precision Electric Address: 8137 Winter Gardens Blvd City: Lakeside State: CA Zip: 92040 Phone: 619-390-2991 Email: wturner@pessd.com	100002037	Constructor	534116	PV System	\$ 92,337			
Name: Eberhard Benton Roofing Address: 3691 Hancock St. City: San Diego State: CA Zip: 92110 Phone: 619-291-6340 Email: jpirak@eberhardco.com	1000008757	Constructor	731742	Roofing	\$ 89,105			

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Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

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California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

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**PRICE PROPOSAL FORMS**

**DESIGN-BUILD NAMED EQUIPMENT/MATERIAL SUPPLIER LIST TO BE INCLUDED IN THE PRICE PROPOSAL ONLY**

For credit calculations for City-funded contracts, see Chapter 11 in The WHITEBOOK. For non-City funded contracts, refer to the Funding Agency Provisions. If no indication of the supplier, manufacturer, or non-supplier is provided, listed firm will receive no credit for purpose of calculating the Subcontractor Participation Percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	DIR Registration Number	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>①</sup>	WHERE CERTIFIED <sup>②</sup>
Name: _____ Address: <b>None</b> _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

① As appropriate, Design-Builder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Design-Builder shall indicate if Vendor/Supplier is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Design-Builder will not receive any subcontracting participation percentages if the Design-Builder fails to submit the required proof of certification.**

**ATTACHMENT I**  
**CERTIFICATIONS AND FORMS**

## CERTIFICATIONS AND FORMS

**The Bidder / Proposer, by submitting its electronic bid or proposal, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certifications, forms and affidavits submitted as part of this submission are true and correct.**

## Design-Build Proposal

1. The undersigned The Design-Builder proposes and agrees, if this Proposal is accepted, to enter into an agreement with the City in the form included in the Contract Documents to perform the Work as specified or indicated in said Contract Documents entitled **North University City Fire Station 50 Design-Build** (Project).
2. The Design-Builder accepts all of the terms and conditions of the Contract Documents, including without limitation those in the RFP.
3. This Proposal will remain open for the period stated in the RFP unless otherwise required by law. The Design-Builder will enter into an agreement within the time and in the manner required in the RFP and will furnish the insurance certificates, Payment Bond, and Performance Bond required by the Contract Documents.
4. The Design-Builder has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules, and regulations), and the conditions affecting cost, progress or performance of the Work and has made such independent investigations as The Design-Builder deems necessary.

To all the foregoing, and including all Proposal schedule(s) and information required of the Design-Builder contained in this Proposal Form, said The Design-Builder further agrees to complete the Work and Services required under the Contract Documents within the Contract Time stipulated in said Contract Documents, and to accept in full payment therefore the Contract Price based on the Total Proposal Price(s) named in the aforementioned Proposal schedule(s).

Dated: November 28, 2017

The Design-Builder: RABC-ECC A Joint Venture

By:  \_\_\_\_\_  
(Signature)

Title: JV Partner

# PROPOSAL

## Design-Builder's General Information

To the City of San Diego:

Pursuant to the "Request for Proposal", specifications, and requirements on file with the City Clerk, and subject to all provisions of the Charter and Ordinances of the City of San Diego and applicable laws and regulations of the United States and the State of California, the undersigned hereby proposes to furnish to the City of San Diego, complete at the prices stated herein, the items or services hereinafter mentioned. The undersigned further warrants that this proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the proposal is genuine and not collusive or sham; that the proposer has not directly or indirectly induced or solicited any other proposer to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any proposer or anyone else to put in a sham proposal, or that anyone shall refrain from proposing; that the proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the proposer or any other proposer, or to fix any overhead, profit, or cost element of the proposal price, or of that of any other proposer, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the proposal are true; and, further, that the proposer has not, directly or indirectly, submitted his or her proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, proposal depository, or to any member or agent thereof to effectuate a collusive or sham proposal. The undersigned proposer(s) further warrants that proposer(s) has thoroughly examined and understands the entire Contract Documents (plans and specifications) and the Proposal Documents therefore, and that by submitting said Proposal Documents as its proposal, proposer(s) acknowledges and is bound by the entire Contract Documents, including any addenda issued thereto, as such Contract Documents incorporated by reference in the Proposal Documents.

### **IF A SOLE OWNER OR SOLE CONTRACTOR SIGN HERE:**

- (1) Name under which business is conducted \_\_\_\_\_
- (2) Signature (Given and surname) of proprietor \_\_\_\_\_
- (3) Place of Business (Street & Number) \_\_\_\_\_
- (4) City and State \_\_\_\_\_ Zip Code \_\_\_\_\_
- (5) Telephone No. \_\_\_\_\_ Facsimile No. \_\_\_\_\_
- (6) Email Address \_\_\_\_\_

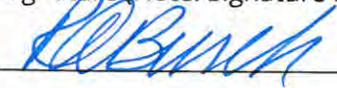
**IF A PARTNERSHIP, SIGN HERE:**

- (1) Name under which business is conducted RABC-ECC A Joint Venture
- (2) Name of each member of partnership, indicate character of each partner, general or special (limited):

Robert A. Burch - General Partner

Sherri L. Summers - General Partner

- (3) Signature (Note: Signature must be made by a general partner)



Full Name and Character of partner

Robert A. Burch - JV General Partner

- (4) Place of Business (Street & Number) 9834 River Street
- (5) City and State Lakeside, California Zip Code 92040
- (6) Telephone No. 619.440.7181 Facsimile No. 619.440.7180
- (7) Email Address ruburch@raburch.com / sherri@econconstructors.com

**IF A CORPORATION, SIGN HERE:**

- (1) Name under which business is conducted \_\_\_\_\_
- (2) Signature, with official title of officer authorized to sign for the corporation:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed Name)

\_\_\_\_\_  
(Title of Officer)

(Impress Corporate Seal Here)

- (3) Incorporated under the laws of the State of \_\_\_\_\_

(4) Place of Business (Street & Number) \_\_\_\_\_  
(5) City and State \_\_\_\_\_ Zip Code \_\_\_\_\_  
(6) Telephone No. \_\_\_\_\_ Facsimile No. \_\_\_\_\_  
(7) Email Address \_\_\_\_\_

**THE FOLLOWING SECTIONS MUST BE FILLED IN BY ALL PROPOSERS:**

In accordance with the "Request for Proposal", the proposer holds a California State Contractor's license for the following classification(s) to perform the work described in these specifications:

LICENSE CLASSIFICATION A - General Engineering B - General Building

LICENSE NO. 986034 EXPIRES 08/30/2019

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: \_\_\_\_\_

1000036522

This license classification must also be shown on the front of the proposal envelope. Failure to show license classification on the proposal envelope may cause return of the proposal unopened.

TAX IDENTIFICATION NUMBER (TIN): 46-5318641

E-Mail Address: rburch@raburch.com / sherri@econconstructors.com

**THIS PROPOSAL MUST BE NOTARIZED BELOW:**

I certify, under penalty of perjury, that the representations made herein regarding my State Contractor's license number, classification and expiration date are true and correct.

Signature  Title General Partner

SUBSCRIBED AND SWORN TO BEFORE ME, THIS \_\_\_\_\_ DAY OF \_\_\_\_\_

Notary Public in and for the County of \_\_\_\_\_, State of \_\_\_\_\_

*see attached*

(NOTARIAL SEAL)

# California Jurat

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California }

County of San Diego}

Subscribed and sworn to (or affirmed) before me this 22th day of November,  
Month

2017, by R. A. Burch XX, and  
Name of Signer

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.



[NOTARY SEAL]

Dora L. Beltran  
Signature of Notary Public

**PERFORMANCE BOND AND LABOR AND MATERIAL MEN'S BOND**

**FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:**

RABC-ECC A Joint Venture, ~~and~~ as principal, and Travelers Casualty and Surety Company of America AND Hartford Fire Insurance Company, ~~and~~ corporations authorized to do business in the State of California, as Surety, hereby obligate themselves, their successors and assigns, jointly and severally, to The City of San Diego a municipal corporation in the sum of **Ten Million Seven Hundred Sixty Three Thousand One Hundred Fifteen Dollars and Zero Cents (\$10,763,115.00)** for the faithful performance of the annexed contract, and in the sum of **Ten Million Seven Hundred Sixty Three Thousand One Hundred Fifteen Dollars and Zero Cents (\$10,763,115.00)** for the benefit of laborers and materialmen designated below.

**Conditions:**

If the Principal shall faithfully perform the annexed contract **North University City Fire Station 50 Design-Build**, RFP Number **K-18-1459-DB2-3**, San Diego, California then the obligation herein with respect to a faithful performance shall be void; otherwise it shall remain in full force.

If the Principal shall promptly pay all persons, firms and corporations furnishing materials for or performing labor in the execution of this contract, and shall pay all amounts due under the California Unemployment Insurance Act then the obligation herein with respect to laborers and materialmen shall be void; otherwise it shall remain in full force.

The obligation herein with respect to laborers and materialmen shall inure to the benefit of all persons, firms and corporations entitled to file claims under the provisions of Article 2. Claimants, (iii) public works of improvement commencing with Civil Code Section 9100 of the Civil Code of the State of California.

Changes in the terms of the annexed contract or specifications accompanying same or referred to therein shall not affect the Surety's obligation on this bond, and the Surety hereby waives notice of same.

The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

Two Originals Executed

PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND (Cont.)

The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

Dated February 2, 2018

Approved as to Form

RABC-ECC A Joint Venture

Principal

By *Sherril Summers*  
Sherril L. Summers, Partner

Printed Name of Person Signing for Principal

Travelers Casualty and Surety Company of America

Surety

By *Brooke Lafrenz*  
Brooke Lafrenz Attorney-in-fact  
21688 Gateway Center Drive

Local Address of Surety

Diamond Bar, CA 91765

Local Address (City, State) of Surety

909-612-3653

Local Telephone No. of Surety

Mara W. Elliott, City Attorney

By *Christina Lee*  
Deputy City Attorney

3/20/18

Hartford Fire Insurance Company

Surety

By *Brooke Lafrenz*  
Brooke Lafrenz Attorney-in-fact

One Pointe Drive, 6th Floor  
Local Address of Surety

Brea, CA 92821-2333

Local Address (City, State) of Surety

714-674-1307

Local Telephone No. of Surety

Approved:

By \_\_\_\_\_

*James Nagelvoort*

James Nagelvoort  
Director  
Public Works Department

Premium \$92,685.00

Travelers Casualty and Surety Company of America Bond No. 106628466

Hartford Fire Insurance Company Bond No. 72BCSHU4842

# ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of San Diego }

On 02 February 2018 before me, Audrey Rodriguez, Notary Public  
(Here insert name and title of the officer)

personally appeared Brooke Lafrenz,  
 who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

*Audrey Rodriguez*  
 Notary Public Signature



(Notary Public Seal)

### ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

\_\_\_\_\_

(Title or description of attached document)

\_\_\_\_\_

(Title or description of attached document continued)

Number of Pages \_\_\_\_\_ Document Date \_\_\_\_\_

CAPACITY CLAIMED BY THE SIGNER

Individual (s)

Corporate Officer

\_\_\_\_\_ (Title)

Partner(s)

Attorney-in-Fact

Trustee(s)

Other \_\_\_\_\_

### INSTRUCTIONS FOR COMPLETING THIS FORM

*This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.*

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he/she/they~~, is /are ) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
  - ❖ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
  - ❖ Indicate title or type of attached document, number of pages and date.
  - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.



POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 230435

Certificate No. 006667247

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Brooke Lafrenz, Larry D. Cogdill, Michael W. Thomas, Gladys Rogers, and Audrey Rodriguez

of the City of San Diego, State of California, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 4th day of February, 2016.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company



State of Connecticut
City of Hartford ss.

By: [Signature]
Robert L. Raney, Senior Vice President

On this the 4th day of February, 2016, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.



[Signature]
Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

**RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

**FURTHER RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

**FURTHER RESOLVED**, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

**FURTHER RESOLVED**, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 2nd day of February, 2018.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

*Kevin E. Hughes*  
Kevin E. Hughes, Assistant Secretary



To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at [www.travelersbond.com](http://www.travelersbond.com). Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

# ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }

County of San Diego }

On 02 February 2018 before me, Audrey Rodriguez, Notary Public,  
(Here Insert name and title of the officer)

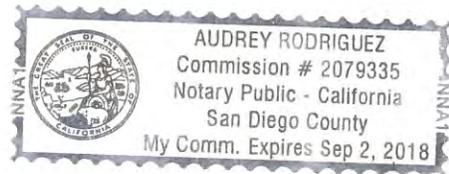
personally appeared Brooke Lafrenz,  
 who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Audrey Rodriguez  
 Notary Public Signature

(Notary Public Seal)



### ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

\_\_\_\_\_

(Title or description of attached document)

\_\_\_\_\_

(Title or description of attached document continued)

Number of Pages \_\_\_\_\_ Document Date \_\_\_\_\_

### CAPACITY CLAIMED BY THE SIGNER

- Individual (s)
- Corporate Officer
- \_\_\_\_\_ (Title)
- Partner(s)
- Attorney-in-Fact
- Trustee(s)
- Other \_\_\_\_\_

### INSTRUCTIONS FOR COMPLETING THIS FORM

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- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
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- Signature of the notary public must match the signature on file with the office of the county clerk.
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  - ❖ Indicate title or type of attached document, number of pages and date.
  - ❖ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

# POWER OF ATTORNEY

Direct Inquiries/Claims to:

THE HARTFORD

BOND, T-4

P.O. BOX 2103, 690 ASYLUM AVENUE  
HARTFORD, CONNECTICUT 06115

call: 888-266-3488 or fax: 860-757-5835

Agency Code: 72-250576

KNOW ALL PERSONS BY THESE PRESENTS THAT:

- Hartford Fire Insurance Company, a corporation duly organized under the laws of the State of Connecticut
- Hartford Casualty Insurance Company, a corporation duly organized under the laws of the State of Indiana
- Hartford Accident and Indemnity Company, a corporation duly organized under the laws of the State of Connecticut
- Hartford Underwriters Insurance Company, a corporation duly organized under the laws of the State of Connecticut
- Twin City Fire Insurance Company, a corporation duly organized under the laws of the State of Indiana
- Hartford Insurance Company of Illinois, a corporation duly organized under the laws of the State of Illinois
- Hartford Insurance Company of the Midwest, a corporation duly organized under the laws of the State of Indiana
- Hartford Insurance Company of the Southeast, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, **up to the amount of unlimited:**

*Linda Matsis, Marc Bishara, Eileen Parnes, Jeannene Scarce, Brooke Lafrenz,  
Larry D. Cogdill, Michael W. Thomas, Gladys Rogers, Audrey Rodriguez*

of  
Woodland Hills, CA

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by , and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

**In Witness Whereof**, and as authorized by a Resolution of the Board of Directors of the Companies on January 22, 2004 the Companies have caused these presents to be signed by its Assistant Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



*Scott Sadowsky*

Scott Sadowsky, Assistant Secretary

*M. Ross Fisher*

M. Ross Fisher, Assistant Vice President

STATE OF CONNECTICUT }  
  } ss. Hartford  
COUNTY OF HARTFORD }

On this 3<sup>rd</sup> day of March, 2008, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Assistant Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



CERTIFICATE

*Scott E. Paseka*

Scott E. Paseka  
Notary Public

My Commission Expires October 31, 2012

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of February 2, 2018.  
Signed and sealed at the City of Hartford.



*Gary W. Stumper*

Gary W. Stumper, Assistant Vice President

**NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY PROPOSER AND SUBMITTED WITH PROPOSAL UNDER 23 UNITED STATES CODE 112 AND PUBLIC CONTRACT CODE 7106**

State of California )  
 ) ss.  
County of San Diego )

Robert A. Burch, being first duly sworn, deposes and says that he or she is General JV Partner of the party making the foregoing proposal that the proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the proposal is genuine and not collusive or sham; that the proposer has not directly or indirectly induced or solicited any other proposer to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any proposer or anyone else to put in a sham proposal, or that anyone shall refrain from proposing; that the proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the proposer or any other proposer, or to fix any overhead, profit, or cost element of the proposal price, or of that of any other proposer, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the proposal are true; and further, that the proposer has not, directly or indirectly, submitted his or her proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, proposal depository, or to any member or agent thereof to effectuate a collusive or sham proposal.

Signed: 

Title: General Partner

Subscribed and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
Notary Public  
*see attached*  
(SEAL)

# California Jurat

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached and not the truthfulness, accuracy, or validity of that document.

State of California }

County of San Diego}

Subscribed and sworn to (or affirmed) before me this 22th day of November,  
Month

2017, by R. A. Burch xx, and  
Name of Signer

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.



[NOTARY SEAL]

Dora L. Beltran  
Signature of Notary Public

## CONTRACTORS CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

CHECK ONE BOX ONLY.

- The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.
- The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

DATE OF CLAIM	LOCATION	DESCRIPTION OF CLAIM	LITIGATION (Y/N)	STATUS	RESOLUTION/REMEDIAL ACTION TAKEN

Contractor Name: RABC-ECC A Joint Venture

Certified By R. A. Burch Title General Partner  
Name  
  
Signature Date Nov. 28, 2017

**USE ADDITIONAL FORMS AS NECESSARY**

## CONTRACTOR CERTIFICATION

---

### DRUG-FREE WORKPLACE

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 7-13.3, "Drug-Free Workplace", of the project specifications, and that;

This company\_has in place a drug-free workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of subdivisions a) through c) of the policy as outlined.

## CONTRACTOR CERTIFICATION

---

### AMERICAN WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the American With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 7-13.2, "California Building Code, California Code of Regulations Title 24 and Americans With Disabilities Act", of the project specifications, and that;

This company has in place workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of the policy as outlined.

## **CONTRACTOR CERTIFICATION**

---

### **CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE**

I declare under penalty of perjury that I am authorized to make this certification on behalf of the company submitting this bid/proposal, that as Contractor, I am familiar with the requirements of City of San Diego Municipal Code § 22.3004 regarding Contractor Standards as outlined in the WHITEBOOK, Section 7-13.4, ("Contractor Standards and Pledge of Compliance"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors whose subcontracts are greater than \$50,000 in value has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3004.

**AFFIDAVIT OF DISPOSAL**

**(To be submitted upon completion of Construction pursuant to the contracts Certificate of completion)**

**WHEREAS**, on the \_\_\_\_\_ DAY OF \_\_\_\_\_, 2\_\_\_\_\_ the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

**NORTH UNIVERSITY CITY FIRE STATION 50 DESIGN-BUILD**

(Name of Project)

as particularly described in said contract and identified as RFP No. **K-18-1459-DB2-3**; SAP No. (WBS/IO/CC) **S-13021**; and **WHEREAS**, the specification of said contract requires the Contractor to affirm that "all brush, trash, debris, and surplus materials resulting from this project have been disposed of in a legal manner"; and **WHEREAS**, said contract has been completed and all surplus materials disposed of:

\_\_\_\_\_  
\_\_\_\_\_  
**NOW, THEREFORE**, in consideration of the final payment by the City of San Diego to said Contractor under the terms of said contract, the undersigned Contractor, does hereby affirm that all surplus materials as described in said contract have been disposed of at the following location(s)

\_\_\_\_\_  
\_\_\_\_\_  
and that they have been disposed of according to all applicable laws and regulations.

Dated this \_\_\_\_\_ DAY OF \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Contractor  
by

**ATTEST:**

State of \_\_\_\_\_ County of \_\_\_\_\_

On this \_\_\_\_\_ DAY OF \_\_\_\_\_, 2\_\_\_\_\_, before the undersigned, a Notary Public in and for said County and State, duly commissioned and sworn, personally appeared \_\_\_\_\_ known to me to be the \_\_\_\_\_ Contractor named in the foregoing Release, and whose name is subscribed thereto, and acknowledged to me that said Contractor executed the said Release.

Notary Public in and for said County and State

COMPANY LETTERHEAD  
CERTIFICATE OF COMPLIANCE

---

**Materials and Workmanship Compliance**

For Contract or Task \_\_\_\_\_

I certify that the material listed below complies with the materials and workmanship requirements of the Caltrans Contract Plans, Special Provisions, Standard Specifications, and Standard Plans for the contract listed above.

I also certify that I am an official representative for \_\_\_\_\_, the manufacturer of the material listed above. Furthermore, I certify that where California test methods, physical or chemical test requirements are part of the specifications, that the manufacturer has performed the necessary quality control to substantiate this certification.

**Material Description:**

Manufacturer: _____
Model: _____
Serial Number (if applicable) _____
Quantity to be supplied: _____
Remarks: _____

Signed by: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date: \_\_\_\_\_



## **CONTRACTOR CERTIFICATION**

---

### **EQUAL BENEFITS ORDINANCE CERTIFICATION**

I declare under penalty of perjury that I am familiar with the requirements of and in compliance with the City of San Diego Municipal Code § 22.4300 regarding Equal Benefits Ordinance.

**ATTACHMENT J**  
**DESIGN-BUILD AGREEMENT**

## DESIGN-BUILD AGREEMENT

This Design-Build agreement [Contract] is made and entered into this day of \_\_\_\_\_, 2018, by and between The City of San Diego [City], a municipal corporation, and **RABC-ECC A Joint Venture** [Design-Builder], for the purpose of designing and constructing the **North University City Fire Station 50 Design-Build** (Project) in the amount of **Ten Million Seven Hundred Sixty Three Dollars One Hundred Fifteen Dollars and Zero Cents (\$10,763,115.00)**. The City and Design-Builder are referred to herein as the "Parties".

### RECITALS

- A. The City desires to construct the Project located in the City of San Diego, California.
- B. The City desires to contract with a single entity for design and construction of the Project, as set forth in this Agreement.
- C. The City has issued Request for Proposal (RFP) number **K-18-1459-DB2-3** for **North University City Fire Station 50 Design-Build**, pursuant to which the City solicited Proposals from design-build teams to design, rehabilitate, and build the Project.
- D. In accordance with City's RFP, Design-Builder submitted a Proposal for the Project and is prepared to enter into this Agreement.
- E. The City has selected the Design-Builder to perform, either directly or pursuant to Subcontracts, hereinafter defined, the design, engineering, and construction services set forth in this Agreement and the Contract Documents, hereinafter defined.
- F. The Design-Builder is ready, willing, and able to perform the services required in accordance with the terms and conditions of this Agreement.
- G. Execution of this Agreement by the Design-Builder is a representation that the Design-Builder has visited the Site, become familiar with the local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

In consideration of the above recitals and the mutual covenants and conditions set forth herein, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby set forth their mutual covenants and understandings as follows.

### AGREEMENT

- A. Recitals and Attachments. The above referenced recitals are true and correct and are incorporated into this Agreement by this reference. All attachments referenced in this Agreement section are incorporated into the Contract by this reference.
- B. Contract Performance. The Design-Builder shall design and construct the Project in a good and workmanlike manner to the satisfaction of the City, lien free and in compliance with the Contract Documents and within the time specified, in return for timely payment by the City in accordance with the Contract.

- C. Attachments. All attachments e.g., Reference Standards in the RFP, Supplementary Special Provisions (SSP), the attached Faithful Performance and Payment Bonds, Agreement and Supplemental Agreements, and the attached Proposal included in the Proposal documents by the Contractor are incorporated into the Contract by this reference.
- D. Contract Documents. This Contract incorporates the 2015 Edition of the Standard Specifications for Public Works Construction [The GREENBOOK], including amendments set forth in the 2015 edition of the San Diego Specifications for Public Works Construction [The WHITEBOOK]. The Contract Documents shall include the items mentioned in section 2-5.2 of The WHITEBOOK and shall follow that order of precedence.

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code §22.3102 authorizing such execution.

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

Mara W. Elliott, City Attorney

By [Signature]

By Christina L. Rae

Print Name: James Nagelvoort  
Director  
Public Works Department

Print Name: Christina L. Rae  
Deputy City Attorney

Date: 3/12/18

Date: 3/20/18

CONTRACTOR RABC-ECC, A Joint Venture

By [Signature]

Print Name: Sherri L. Summers

Title: JV Partner

Date: January 31, 2018

City of San Diego License No.: B2017013244

State Contractor's License No.: 986034

**ATTACHMENT K**  
**RENDERINGS**

# FIRE STATION 50 | UNIVERSITY CITY

RENDERING PACKAGE 09/06/2016





FIRE STATION EAST ELEVATION



WEST BOUND ON NOBEL DR.



EAST BOUND ON NOBEL DR.

**ATTACHMENT L**  
**CLIMATE ACTION PLAN (CAP) CHECKLIST & RESPONSE**



# CLIMATE ACTION PLAN CONSISTENCY CHECKLIST INTRODUCTION

In December 2015, the City adopted a Climate Action Plan (CAP) that outlines the actions that City will undertake to achieve its proportional share of State greenhouse gas (GHG) emission reductions. The purpose of the Climate Action Plan Consistency Checklist (Checklist) is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).<sup>1</sup>

Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

This Checklist is part of the CAP and contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

The Checklist may be updated to incorporate new GHG reduction techniques or to comply with later amendments to the CAP or local, State, or federal law.

Questions pertaining to the Checklist should be directed to Development Services Department at 619-446-5000.

<sup>1</sup> Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.

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# CAP CONSISTENCY CHECKLIST SUBMITTAL APPLICATION

- ❖ The Checklist is required only for projects subject to CEQA review.<sup>2</sup>
- ❖ If required, the Checklist must be included in the project submittal package. Application submittal procedures can be found in [Chapter 11: Land Development Procedures](#) of the City’s Municipal Code.
- ❖ The requirements in the Checklist will be included in the project’s conditions of approval.
- ❖ The applicant must provide an explanation of how the proposed project will implement the requirements described herein to the satisfaction of the Planning Department.

## Application Information

### Contact Information

Project No./Name: FIRE STATION 50

Property Address: PORTION OF PUEBLO LOT 1304, MISC. MAP 36

Applicant Name/Co.: CITY OF SAN DIEGO

Contact Phone: 619-235-1965      Contact Email: jneff@sanidiego.gov

Was a consultant retained to complete this checklist?     Yes     No      If Yes, complete the following

Consultant Name: Scott Maas      Contact Phone: 619.297.6153

Company Name: Safdie Rabines Architects      Contact Email: scott@safdierabines.com

### Project Information

1. What is the size of the project (acres)?      .92 acres

2. Identify all applicable proposed land uses:

Residential (indicate # of single-family units): \_\_\_\_\_

Residential (indicate # of multi-family units): \_\_\_\_\_

Commercial (total square footage): \_\_\_\_\_

Industrial (total square footage): \_\_\_\_\_

Other (describe):      Essential Services(New fire station: 3 apparatus bays & 10 dorm rooms)

3. Is the project located in a Transit Priority Area?       Yes     No

4. Provide a brief description of the project proposed:      Construction of a new 3 Story Fire Station

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<sup>2</sup> Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project’s community plan to determine applicability.

North University City Fire Station 50 Design – Build      971 | Page

Attachment L – Climate Action Plan (CAP) Checklist & Response



# CAP CONSISTENCY CHECKLIST QUESTIONS

## Step 1: Land Use Consistency

The first step in determining CAP consistency for discretionary development projects is to assess the project's consistency with the growth projections used in the development of the CAP. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide explanation and supporting documentation for your answer)	Yes	No
1. Is the proposed project consistent with the existing General Plan and Community Plan land use and zoning designations?; <sup>3</sup> <u>OR</u> , 2. If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?; <u>OR</u> , 3. If the proposed project is not consistent with the existing land use plan and zoning designations, and includes a land use plan and/or zoning designation amendment that would result in an increase in GHG emissions when compared to the existing designations, would the project be located in a Transit Priority Area (TPA) and implement CAP Strategy 3 actions, as determined in Step 3 to the satisfaction of the Development Services Department?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If **"Yes,"** proceed to Step 2 of the Checklist. For questions 2 and 3 above, provide estimated project emissions under both existing and proposed designation(s) for comparison. For question 3 above, complete Step 3.

If **"No,"** in accordance with the City's Significance Determination Thresholds, the project's GHG impact is significant. The project must nonetheless incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless the decision maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete Step 2 of the Checklist.

<sup>3</sup> This question may also be answered in the affirmative if the project is consistent with SANDAG Series 12 growth projections, which were used to determine the CAP projections, as determined by the Planning Department.

## Step 2: CAP Strategies Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable strategies and actions of the CAP. Step 2 only applies to development projects that involve permits that would require a certificate of occupancy from the Building Official or projects comprised of one and two family dwellings or townhouses as defined in the California Residential Code and their accessory structures.<sup>4</sup> All other development projects that would not require a certificate of occupancy from the Building Official shall implement Best Management Practices for construction activities as set forth in the [Greenbook](#) (for public projects).

Step 2: CAP Strategies Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
<b>Strategy 1: Energy &amp; Water Efficient Buildings</b>			
<p>1. <i>Cool/Green Roofs.</i></p> <ul style="list-style-type: none"> <li>• Would the project include roofing materials with a minimum 3-year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under <a href="#">California Green Building Standards Code</a> (Attachment A)?; <u>OR</u></li> <li>• Would the project roof construction have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot as specified in the voluntary measures under <a href="#">California Green Building Standards Code</a>?; <u>OR</u></li> <li>• Would the project include a combination of the above two options?</li> </ul> <p>Check "N/A" only if the project does not include a roof component.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>2. <i>Plumbing fixtures and fittings</i></p> <p>With respect to plumbing fixtures or fittings provided as part of the project, would those low-flow fixtures/appliances be consistent with each of the following:</p> <p>Residential buildings:</p> <ul style="list-style-type: none"> <li>• Kitchen faucets: maximum flow rate not to exceed 1.5 gallons per minute at 60 psi;</li> <li>• Standard dishwashers: 4.25 gallons per cycle;</li> <li>• Compact dishwashers: 3.5 gallons per cycle; and</li> <li>• Clothes washers: water factor of 6 gallons per cubic feet of drum capacity?</li> </ul> <p>Nonresidential buildings:</p> <ul style="list-style-type: none"> <li>• Plumbing fixtures and fittings that do not exceed the maximum flow rate specified in <a href="#">Table A5.303.2.3.1 (voluntary measures) of the California Green Building Standards Code</a> (See Attachment A); and</li> <li>• Appliances and fixtures for commercial applications that meet the provisions of <a href="#">Section A5.303.3 (voluntary measures) of the California Green Building Standards Code</a> (See Attachment A)?</li> </ul> <p>Check "N/A" only if the project does not include any plumbing fixtures or fittings.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>4</sup> Actions that are not subject to Step 2 would include, for example: 1) discretionary map actions that do not propose specific development, 2) permits allowing wireless communication facilities, 3) special events permits, 4) use permits that do not result in the expansion or enlargement of a building, and 5) non-building infrastructure projects such as roads and pipelines. Because such actions would not result in new occupancy buildings from which GHG emissions reductions could be achieved, the items contained in Step 2 would not be applicable.

## Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
---	-----	----	-----

### Strategy 2: Clean & Renewable Energy

#### 3. Energy Performance Standard / Renewable Energy

Is the project designed to have an energy budget that meets the following performance standards when compared to the Title 24, Part 6 Energy Budget for the Proposed Design Building as calculated by [Compliance Software certified by the California Energy Commission](#) (percent improvement over current code):

- Low-rise residential – 15% improvement?
- Nonresidential with indoor lighting OR mechanical systems, but not both – 5% improvement?
- Nonresidential with both indoor lighting AND mechanical systems – 10% improvement?<sup>5</sup>

The demand reduction may be provided through on-site renewable energy generation, such as solar, or by designing the project to have an energy budget that meets the above-mentioned performance standards, when compared to the Title 24, Part 6 Energy Budget for the Proposed Design Building (percent improvement over current code).

Note: For Energy Budget calculations, high-rise residential and hotel/motel buildings are considered non-residential buildings.

Check "N/A" only if the project does not contain any residential or non-residential buildings.




### Strategy 3: Bicycling, Walking, Transit & Land Use

#### 4. Electric Vehicle Charging

- Single-family projects: Would the required parking serving each new single-family residence and each unit of a duplex be constructed with a listed cabinet, box or enclosure connected to a raceway linking the required parking space to the electrical service, to allow for the future installation of electric vehicle supply equipment to provide an electric vehicle charging station for use by the resident?
- Multiple-family projects of 10 dwelling units or less: Would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official, to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents?
- Multiple-family projects of more than 10 dwelling units: Would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official? Of the total listed cabinets, boxes or enclosures provided, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use by residents?




<sup>5</sup> CALGreen defines mechanical systems as equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

## Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
<ul style="list-style-type: none"> <li><b>Non-residential projects:</b> If the project includes new commercial, industrial, or other uses with the building or land area, capacity, or numbers of employees listed in Attachment A, would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official? Of the total listed cabinets, boxes or enclosures provided, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use?</li> </ul> <p>Check "N/A" only if the project is does not include new commercial, industrial, or other uses with the building or land area, capacity, or numbers of employees listed in Attachment A.</p>			

### Strategy 3: Bicycling, Walking, Transit & Land Use

(Complete this section if project includes non-residential or mixed uses)

<p>5. <i>Bicycle Parking Spaces</i></p> <p>Would the project provide more short- and long-term bicycle parking spaces than required in the City's Municipal Code (<a href="#">Chapter 14, Article 2, Division 5</a>)?<sup>6</sup></p> <p>Check "N/A" only if the project is a residential project.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																		
<p>6. <i>Shower facilities</i></p> <p>If the project includes nonresidential development that would accommodate over 10 tenant occupants (employees), would the project include changing/shower facilities in accordance with the voluntary measures under the <a href="#">California Green Building Standards Code</a> as shown in the table below?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Number of Tenant Occupants (Employees)</th> <th style="text-align: center;">Shower/Changing Facilities Required</th> <th style="text-align: center;">Two-Tier (12" X 15" X 72") Personal Effects Lockers Required</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0-10</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td style="text-align: center;">11-50</td> <td style="text-align: center;">1 shower stall</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">51-100</td> <td style="text-align: center;">1 shower stall</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">101-200</td> <td style="text-align: center;">1 shower stall</td> <td style="text-align: center;">4</td> </tr> <tr> <td style="text-align: center;">Over 200</td> <td style="text-align: center;">1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants</td> <td style="text-align: center;">1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants</td> </tr> </tbody> </table> <p>Check "N/A" only if the project is a residential project, or if it does not include nonresidential development that would accommodate over 10 tenant occupants (employees).</p>	Number of Tenant Occupants (Employees)	Shower/Changing Facilities Required	Two-Tier (12" X 15" X 72") Personal Effects Lockers Required	0-10	0	0	11-50	1 shower stall	2	51-100	1 shower stall	3	101-200	1 shower stall	4	Over 200	1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants	1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Number of Tenant Occupants (Employees)	Shower/Changing Facilities Required	Two-Tier (12" X 15" X 72") Personal Effects Lockers Required																			
0-10	0	0																			
11-50	1 shower stall	2																			
51-100	1 shower stall	3																			
101-200	1 shower stall	4																			
Over 200	1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants	1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants																			

<sup>6</sup> Non-portable bicycle corrals within 600 feet of project frontage can be counted towards the project's bicycle parking requirements.

## Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A																		
<p><b>7. Designated Parking Spaces</b></p> <p>If the project includes an employment use in a TPA, would the project provide designated parking for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles in accordance with the following table?</p> <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #4f81bd; color: white;"> <th style="padding: 5px;">Number of Required Parking Spaces</th> <th style="padding: 5px;">Number of Designated Parking Spaces</th> </tr> </thead> <tbody> <tr><td style="padding: 5px;">0-9</td><td style="padding: 5px;">0</td></tr> <tr><td style="padding: 5px;">10-25</td><td style="padding: 5px;">2</td></tr> <tr><td style="padding: 5px;">26-50</td><td style="padding: 5px;">4</td></tr> <tr><td style="padding: 5px;">51-75</td><td style="padding: 5px;">6</td></tr> <tr><td style="padding: 5px;">76-100</td><td style="padding: 5px;">9</td></tr> <tr><td style="padding: 5px;">101-150</td><td style="padding: 5px;">11</td></tr> <tr><td style="padding: 5px;">151-200</td><td style="padding: 5px;">18</td></tr> <tr><td style="padding: 5px;">201 and over</td><td style="padding: 5px;">At least 10% of total</td></tr> </tbody> </table> <p>This measure does not cover electric vehicles. See Question 4 for electric vehicle parking requirements.</p> <p>Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces. The required designated parking spaces are to be provided within the overall minimum parking requirement, not in addition to it.</p> <p>Check "N/A" only if the project is a residential project, or if it does not include an employment use in a TPA.</p>	Number of Required Parking Spaces	Number of Designated Parking Spaces	0-9	0	10-25	2	26-50	4	51-75	6	76-100	9	101-150	11	151-200	18	201 and over	At least 10% of total	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of Required Parking Spaces	Number of Designated Parking Spaces																				
0-9	0																				
10-25	2																				
26-50	4																				
51-75	6																				
76-100	9																				
101-150	11																				
151-200	18																				
201 and over	At least 10% of total																				
<p><b>8. Transportation Demand Management Program</b></p> <p>If the project would accommodate over 50 tenant-occupants (employees), would it include a transportation demand management program that would be applicable to existing tenants and future tenants that includes:</p> <p>At least one of the following components:</p> <ul style="list-style-type: none"> <li>Parking cash out program</li> <li>Parking management plan that includes charging employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools</li> <li>Unbundled parking whereby parking spaces would be leased or sold separately from the rental or purchase fees for the development for the life of the development</li> </ul> <p>And at least three of the following components:</p> <ul style="list-style-type: none"> <li>Commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees</li> <li>On-site carsharing vehicle(s) or bikesharing</li> <li>Flexible or alternative work hours</li> <li>Telework program</li> <li>Transit, carpool, and vanpool subsidies</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																		

## Step 2: CAP Strategies Consistency

Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
<ul style="list-style-type: none"> <li>• Pre-tax deduction for transit or vanpool fares and bicycle commute costs</li> <li>• Access to services that reduce the need to drive, such as cafes, commercial stores, banks, post offices, restaurants, gyms, or childcare, either onsite or within 1,320 feet (1/4 mile) of the structure/use?</li> </ul> <p>Check "N/A" only if the project is a residential project or if it would not accommodate over 50 tenant-occupants (employees).</p>			

## Step 3: Project CAP Conformance Evaluation (if applicable)

The third step of the CAP consistency review only applies if Step 1 is answered in the affirmative under option 3. The purpose of this step is to determine whether a project that is located in a TPA but that includes a land use plan and/or zoning designation amendment that would result in an increase in GHG emissions when compared to the existing designations, is nevertheless consistent with the assumptions in the CAP because it would implement CAP Strategy 3 actions. The following questions must each be answered in the affirmative and fully explained.

**1. Would the proposed project implement the General Plan's City of Villages strategy in an identified Transit Priority Area (TPA) that will result in an increase in the capacity for transit-supportive residential and/or employment densities?**

Considerations for this question:

- Does the proposed land use and zoning designation associated with the project provide capacity for transit-supportive residential densities within the TPA?
- Is the project site suitable to accommodate mixed-use village development, as defined in the General Plan, within the TPA?
- Does the land use and zoning associated with the project increase the capacity for transit-supportive employment intensities within the TPA?

**2. Would the proposed project implement the General Plan's Mobility Element in Transit Priority Areas to increase the use of transit?**

Considerations for this question:

- Does the proposed project support/incorporate identified transit routes and stops/stations?
- Does the project include transit priority measures?

**3. Would the proposed project implement pedestrian improvements in Transit Priority Areas to increase walking opportunities?**

Considerations for this question:

- Does the proposed project circulation system provide multiple and direct pedestrian connections and accessibility to local activity centers (such as transit stations, schools, shopping centers, and libraries)?
- Does the proposed project urban design include features for walkability to promote a transit supportive environment?

**4. Would the proposed project implement the City of San Diego's Bicycle Master Plan to increase bicycling opportunities?**

Considerations for this question:

- Does the proposed project circulation system include bicycle improvements consistent with the Bicycle Master Plan?
- Does the overall project circulation system provide a balanced, multimodal, "complete streets" approach to accommodate mobility needs of all users?

**5. Would the proposed project incorporate implementation mechanisms that support Transit Oriented Development?**

Considerations for this question:

- Does the proposed project include new or expanded urban public spaces such as plazas, pocket parks, or urban greens in the TPA?
- Does the land use and zoning associated with the proposed project increase the potential for jobs within the TPA?
- Do the zoning/implementing regulations associated with the proposed project support the efficient use of parking through mechanisms such as: shared parking, parking districts, unbundled parking, reduced parking, paid or time-limited parking, etc.?

**6. Would the proposed project implement the Urban Forest Management Plan to increase urban tree canopy coverage?**

Considerations for this question:

- Does the proposed project provide at least three different species for the primary, secondary and accent trees in order to accommodate varying parkway widths?
- Does the proposed project include policies or strategies for preserving existing trees?
- Does the proposed project incorporate tree planting that will contribute to the City's 20% urban canopy tree coverage goal?



# CLIMATE ACTION PLAN CONSISTENCY CHECKLIST

## ATTACHMENT A

This attachment provides performance standards for applicable Climate Action Plan (CAP) Consistency Checklist measures.

<b>Table 1 Roof Design Values for Question 1: Cool/Green Roofs supporting Strategy 1: Energy &amp; Water Efficient Buildings of the Climate Action Plan</b>				
Land Use Type	Roof Slope	Minimum 3-Year Aged Solar Reflectance	Thermal Emittance	Solar Reflective Index
Low-Rise Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
High-Rise Residential Buildings, Hotels and Motels	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
Non-Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16

Source: Adapted from the [California Green Building Standards Code \(CALGreen\)](#) Tier 1 residential and non-residential voluntary measures shown in Tables A4.106.5.1 and A5.106.11.2.2, respectively. Roof installation and verification shall occur in accordance with the CALGreen Code.

CALGreen does not include recommended values for low-rise residential buildings with roof slopes of ≤ 2:12 for San Diego's climate zones (7 and 10). Therefore, the values for climate zone 15 that covers Imperial County are adapted here.

Solar Reflectance Index (SRI) equal to or greater than the values specified in this table may be used as an alternative to compliance with the aged solar reflectance values and thermal emittance.

**Table 2 Fixture Flow Rates for Non-Residential Buildings related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan**

Fixture Type	Maximum Flow Rate
Showerheads	1.8 gpm @ 80 psi
Lavatory Faucets	0.35 gpm @60 psi
Kitchen Faucets	1.6 gpm @ 60 psi
Wash Fountains	1.6 [rim space(in.)/20 gpm @ 60 psi]
Metering Faucets	0.18 gallons/cycle
Metering Faucets for Wash Fountains	0.18 [rim space(in.)/20 gpm @ 60 psi]
Gravity Tank-type Water Closets	1.12 gallons/flush
Flushometer Tank Water Closets	1.12 gallons/flush
Flushometer Valve Water Closets	1.12 gallons/flush
Electromechanical Hydraulic Water Closets	1.12 gallons/flush
Urinals	0.5 gallons/flush

Source: Adapted from the [California Green Building Standards Code \(CALGreen\)](#) Tier 1 non-residential voluntary measures shown in Tables A5.303.2.3.1 and A5.106.11.2.2, respectively. See the [California Plumbing Code](#) for definitions of each fixture type.

Where complying faucets are unavailable, aerators rated at 0.35 gpm or other means may be used to achieve reduction.

**Acronyms:**

gpm = gallons per minute

psi = pounds per square inch (unit of pressure)

in. = inch

**Table 3 Standards for Appliances and Fixtures for Commercial Application related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan**

Appliance/Fixture Type	Standard	
Clothes Washers	Maximum Water Factor (WF) that will reduce the use of water by 10 percent below the California Energy Commissions' WF standards for commercial clothes washers located in Title 20 of the <i>California Code of Regulations</i> .	
Conveyor-type Dishwashers	0.70 maximum gallons per rack (2.6 L) (High-Temperature)	0.62 maximum gallons per rack (4.4 L) (Chemical)
Door-type Dishwashers	0.95 maximum gallons per rack (3.6 L) (High-Temperature)	1.16 maximum gallons per rack (2.6 L) (Chemical)
Undercounter-type Dishwashers	0.90 maximum gallons per rack (3.4 L) (High-Temperature)	0.98 maximum gallons per rack (3.7 L) (Chemical)
Combination Ovens	Consume no more than 10 gallons per hour (38 L/h) in the full operational mode.	
Commercial Pre-rinse Spray Valves (manufactured on or after January 1, 2006)	Function at equal to or less than 1.6 gallons per minute (0.10 L/s) at 60 psi (414 kPa) and <ul style="list-style-type: none"> <li>• Be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate.</li> <li>• Be equipped with an integral automatic shutoff.</li> <li>• Operate at static pressure of at least 30 psi (207 kPa) when designed for a flow rate of 1.3 gallons per minute (0.08 L/s) or less.</li> </ul>	

Source: Adapted from the [California Green Building Standards Code \(CALGreen\)](#) Tier 1 non-residential voluntary measures shown in Section A5.303.3. See the [California Plumbing Code](#) for definitions of each appliance/fixture type.

Acronyms:  
 L = liter  
 L/h = liters per hour  
 L/s = liters per second  
 psi = pounds per square inch (unit of pressure)  
 kPa = kilopascal (unit of pressure)

<b>Table 4 Size-based Trigger Levels for Electric Vehicle Charging Requirements for Non-Residential Buildings related to Question 10: Electric Vehicle Charging supporting Strategy 3: Bicycling, Walking, Transit &amp; Land Use of the Climate Action Plan</b>	
<b>Land Use Type</b>	<b>Size-based Trigger Level</b>
Hospital	500 or more beds OR Expansion of a 500+ bed hospital by 20%
College	3,000 or more students OR Expansion of a 3,000+ student college by 20%
Hotels/Motels	500 or more rooms
Industrial, Manufacturing or Processing Plants or Industrial Parks	1,000 or more employees OR 40 acres or more of land area OR 650,000 square feet or more of gross floor area
Office buildings or Office Parks	1,000 or more employees OR 250,000 square feet or more of gross floor area
Shopping centers or Trade Centers	1,000 or more employees OR 500,000 square feet or more of gross floor area
Sports, Entertainment or Recreation Facilities	Accommodate at least 4,000 persons per performance OR Contain 1,500 or more fixed seats
Transit Projects (including, but not limited to, transit stations and park and ride lots).	All
Source: Adapted from the Governor's Office of Planning and Research's (OPR's) <a href="#">Model Building Code for Plug-In Electric Vehicle Charging</a>	

## CLIMATE ACTION PLAN – SUPPLEMENTAL RESPONSES

### Step 1. Land Use Consistency

The site is located in the University City Community Planning District, RS-1-14 Zone, will be processed in discretionary review and is consistent with the General Plan, University City Community Plan, S.D.M.C., and zoning regulations. The project consists of a new three story fire station that complies with all height, setback, parking, and architectural design regulations. The project requested and will receive a 4' administrative height deviation. This was due to a stacked design that reduced the projects footprint. This design choice came as a response to the community planning group's concern about the impact of the fire station to the surrounding environmentally sensitive lands. The project complies with all other regulations.

### Step 2. CAP Strategies

#### *CAP Strategy 1. Energy and Water Efficient Buildings*

1. Cool/Green Roofs
  - a. The project will use roofing materials with a minimum solar reflection index equal to or greater than the solar reflective index values specified in the voluntary measures of the California Green Building Code.
2. Plumbing fixtures & fittings
  - a. Kitchen Faucet – the project will use kitchen faucets that do not exceed a flow rate of 1.5 gallons per minute at 60 PSI.
  - b. Dishwasher – the project will use a standard dishwasher that does not exceed 4.25 gallons per cycle
  - c. Clothes Washers – the project will use a clothes washer that does not exceed a water factor of 6 gallons per cubic feet of drum capacity.

#### *CAP Strategy 2. Clean & Renewable Energy*

3. Energy Performance Standard / Renewable energy
  - a. The project's electrical plan is designed to have an energy budget that shows a 15% improvement when compared to the Title 24 (2013) Part 6 energy budget for proposed design building as calculated by Compliance software certified by the California energy Commission. The demand reduction may also be provided through onsite renewable energy.

#### *CAP Strategy 3. Bicycle, Walking, Transit & Land Use*

4. Electrical vehicle charging
  - a. Listed cabinet to be built with conduit for future connection of electric vehicle supply equipment.

5. Bicycle parking spaces.
  - a. The project is zoned RS-1-14 and will serve as a congregate residence to stationed fire fighters. The project will be considered an "Employment Use" in a Residential zone and therefore be classified as non-residential. There will be two parking spaces provided near ramp/walkway entrance on Nobel Dr.
  
6. Shower Facilities.
  - a. Not applicable (not more than 10 tenant occupants). The project is classified as non-residential but is does not have more than 10 tenant occupants (10 occupants) therefor has no requirement for changing/shower facilities. However, there will be 6 full bathrooms provided as part of the programming requirement by the San Diego Fire Department.
  
7. Designated parking spaces
  - a. The project will provide 2 designated parking spaces for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles.
  
8. Transportation demand management program
  - a. Not applicable ( not more than 50 tenant occupants)

# City of San Diego

CITY CONTACT Michelle Muñoz Contract Specialist, Email: [MichelleM@sandiego.gov](mailto:MichelleM@sandiego.gov)  
Phone No. (619) 533-3482, Fax No. (619) 533-3633

## ADDENDUM 1

## PROPOSAL DOCUMENTS

### 2-Step RFP



## FOR

### NORTH UNIVERSITY CITY FIRE STATION 50 DESIGN – BUILD

RFP NO.:	<u>K-18-1459-DB2-3</u>
SAP NO. (WBS/IO/CC):	<u>S-13021</u>
CLIENT DEPARTMENT:	<u>1912</u>
COUNCIL DISTRICT:	<u>1</u>
PROJECT TYPE:	<u>BC</u>

### PROPOSALS DUE:

**12:00 NOON  
NOVEMBER 15, 2017  
CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101**

## A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the RFP are hereby made effective as though originally issued with the RFP. The Design-Builders are reminded that all previous requirements to this solicitation remain in full force and effect.

## B. BIDDER'S QUESTIONS

Q1. Is it possible for the DB Teams to obtain CAD files of the existing site & topographic survey with project limits? This would be very helpful to the design team in preparation of proposals.

A1. See FileCloud for CAD file.

<https://filecloud.sandiego.gov/url/9ej6xcquzf8dgk67>.

## C. CHANGES TO THE REQUEST FOR PROPOSALS

1. To Attachment A, Project Description and Scope of Work, page 20, Section 2, Scope of Work, **ADD** the following:

2.3 The City does not guarantee the accuracy of CAD file provided information to Design-Builder. The Design-Builder shall conduct further research as necessary to verify the information. The City and the Design-Builder recognize that previous designs and reports such as information provided in the Bridging Documents have developed a preliminary definition of the Project. However, these previous efforts have not resulted in a comprehensive and final Project definition. The Design-Builder shall verify all information provided to it by the City pertaining to the Bridging Documents, conceptual plans, Project Site's description, rights-of-way, easements, existing utilities, soils, etc., and shall verify the data and recommendations prior to including them into the Project design. The Design Builder shall perform the engineering tasks necessary to further refine and optimize the Project, utilizing as much previous work as possible, ultimately leading to authorization-to proceed for Construction with Final Design.

James Nagelvoort, Director  
Public Works Department

Dated: *October 20, 2017*  
San Diego, California

JN/JB/lji

# City of San Diego

CITY CONTACT: Michelle Muñoz, Contract Specialist, Email: [MichelleM@sandiego.gov](mailto:MichelleM@sandiego.gov)  
Phone No. (619) 533-3482, Fax No. (619) 533-3633

## ADDENDUM 2

## PROPOSAL DOCUMENTS

### 2-Step RFP



## FOR

### NORTH UNIVERSITY CITY FIRE STATION 50 DESIGN – BUILD

RFP NO.:	<u>K-18-1459-DB2-3</u>
SAP NO. (WBS/IO/CC):	<u>S-13021</u>
CLIENT DEPARTMENT:	<u>1912</u>
COUNCIL DISTRICT:	<u>1</u>
PROJECT TYPE:	<u>BC</u>

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### PROPOSALS DUE:

**12:00 NOON  
NOVEMBER 28, 2017  
CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101**

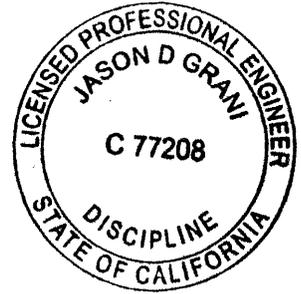
**DEPUTY CITY ENGINEER**

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

  
1) Registered Engineer

10/31/17  
Date

Seal:



## A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the RFP are hereby made effective as though originally issued with the RFP. The Design-Builders are reminded that all previous requirements to this solicitation remain in full force and effect.

THE SUBMITTAL DATE FOR THIS PROJECT HAS BEEN **EXTENDED AS STATED ON THE COVER PAGE.**

## B. BIDDER'S QUESTIONS

Q1. Price Proposal Item No. 9 indicates to provide a price for Revegetation Maintenance and Monitoring Program (5 years). Please advise how this would be processed in the contract. The Contract Duration is 600 working days or approximately 870 calendar days which is a little over 28 months. This bid item would extend for a considerable duration past the end of the contract duration. When does the Revegetation Monitoring and Maintenance Program Start? Would the City extend the contract duration if this bid item is included in Contract? Would the City continue to hold retention from the design & construction process during this maintenance and monitoring duration? These are significant items for DB Teams to consider in pricing this line item.

A1. Yes, the contract duration is 600 working days or approximately 28 months.

NO, the bid item would not extend the duration past the end of the contract duration. This is a ***separate agreement.***

The Revegetation Monitoring and Maintenance program will start after the 120-day PEP (Plant Establishment Period) has been completed.

NO, the City will not extend the contract duration. This is a ***separate agreement.***

NO, the City will continue to withhold construction retention until acceptance of original (Main Construction Contract is completed). The Long Term Revegetation/Restoration Maintenance and Monitoring Agreement (see Appendix H & Appendix I to Attachment E – Supplementary Special Provisions (SSP) will be entered between with the City and the Design Build Contractor under a separate bond of the restoration/ Revegetation period.

Q2. Price Proposal Item No. 10 is similar to the above item and also needs to be clarified for proper consideration and pricing by D/B teams.

- A2. Restoration is 60 Months & Revegetation is 25 months. Please see revised price proposal to reflect line items 9 & 10.
- Q3. Are Items 9, 10, & 11 included in the \$10,400,000 estimated project cost?
- A3. YES.
- Q4. Attachment A: Project Description and Scope, 4.7.2 indicates final as-built drawings in Mylar. Please advise if as-built drawings are should be provided in Mylar format or AutoCAD.
- A4. The City requires both Mylar & AutoCAD As-Built formats.
- Q5. Reference page 24 of the RFP, 4.5.2 – Project Schedule. Article states in part: “The schedule shall be cost loaded and...” It would be unusual for the Contractor to submit a fully detailed and cost loaded schedule at this proposal stage. Being design-build, the documents have not been developed to a point where cost loading is reasonably practical. Please reduce the schedule requirement for the proposal stage to milestone requirements and no cost loading.
- A5. Per City policy all contracts greater than \$500K will require a cost loaded schedule.
- Q6. Is the project scope of work to provide concept, schematic and design development drawings, construction documents and construction OR prepare working drawings for the bridging documents and construction?
- A6. The Bridging Documents represent a 100% Schematic Design/SDP (Site Development Permit). The Design Build Team would be responsible for providing design for the Design Development and Construction Documents phases as well as building permit issuance, consistent with the Bridging Documents/SDP approval, and then of course construction.
- Q7. Is there expected to be any future community engagement between the planning groups and the selected design-build team?
- A7. Please expect that if requested by the community for any reason, you must make yourself available to present and answer questions. This planning group is considered to be VERY involved.

- Q8. There is an existing reclaimed water line across the intersection of Nobel Drive & Shoreline Drive. Is it contemplated by the City that this project would extend that line such that the irrigation system for the fire station could be connected to the reclaimed water system? Please advise.
- A8. During the SDP (Site Development Permit) review for the bridging documents, this was not a requirement by the DSD Landscape reviewer. Typically DSD will require use of reclaimed water for irrigation when it is directly available to a site, but not to extend across a street. However, during the building permit review if the plan checker requests the use of the reclaim water, then DB team needs to comply.
- Q9. Exhibit C – Fire Stations and Facilities Design and Construction Standards indicates that it includes Exhibit 1 for Station Alerting Standards and Attachments I. – VII. These are not included in the RFP. Is it possible for us to get a copy of those documents for consideration during proposal?
- A9. See revised Exhibit C - Fire Stations and Facilities Design and Construction Standards, along with attached related Alerting system cut sheets. Page 4, the phrase “Attachments”, are pacific product requirements that Fire Design standards call out for, there are no Attachments, just links to product information to their pacific product requirements.
- Q10. Attachment G – EVALUATION AND SELECTION, Part 4. Project Team, 4.1 indicates “Describe the qualifications of key proposed construction and technical personnel, and subcontractors, from applicable fields including the following:” Please clarify if resumes are required for key personnel of all subcontractors that may be listed for the project in the Price Proposal Form or just any subcontractors that may provide design and/or construction for the 13 fields noted in this section.
- A10. Attachment G Part 4 project team 4.1, requires the Design Build team to describe the qualifications of their key proposed construction and technical personnel and should be part of the Technical. Please refer to Item 17. Submittal Requirements, subsection 17.1.2 of the Instruction to Proposers and General Conditions.
- Q11. Can we get CAD files of Safdie Rabines Architect’s bridging documents for the Fire Station?

- A11. The complete CAD files will be released to the winning Design Build team.
- Q12. Page 11, Item 11.3 Design-Builder's Work Force; 11.1.1: "The Design-Builders shall submit with its Proposal a Work Force Report..." A Work Force Report was included in the Prequalification Package, but no form for the Work Force Report is included in the RFP package or in the list of required files to be uploaded on PlanetBids. Is a new Work Force Report to be included with the Proposal Documents?
- A12. Yes, Design-Builders are required to submit a Work Force Report with its Proposal. Please see section 11.3.3 for the link to the City's website to download the form.

### C. CHANGES TO THE REQUEST FOR PROPOSALS

1. To Instruction To Proposers and General Conditions, Section 11, Equal Opportunity Contracting, sub-section 11.3, Design-Builder's Work Force, items 11.1.1 through 11.1.3, page 11, **DELETE** in its entirety and **SUBSTITUTE** with the following:
  - 11.3.1 The Design-Builders shall submit with its Proposal a Work Force Report (EOC Form BB05) and prior to award of contract, the successful Design-Builder shall submit to the City's EOCP office an updated Work Force Report or an Equal Employment Opportunity (EEO) Plan.
  - 11.3.2 If under representations are noted in the Work Force Report when compared to County Labor Force Availability data, the Design-Builder shall submit an Equal Opportunity Plan. Any Equal Employment Opportunity Plan submitted shall include the elements as outlined in the EOCP Requirements included in The WHITEBOOK.
  - 11.3.3 The specified Equal Opportunity Contracting Program (EOCP) forms are available for download from the City's web site at:  
<http://www.sandiego.gov/eoc/forms/index.shtml>
2. To Attachment A, Exhibit C, Fire Stations And Facilities Design And Construction Standards, pages 88 through 119, **DELETE** in its entirety and **SUBSTITUTE** with pages 8 through 62 of this Addendum.

3. To Attachment E, Supplementary Special Provisions (SSP), Section 802, Native Habitat Protection, Installation, Maintenance And Monitoring, Sub-section 802-5, Payment, Letter d, page 806, **DELETE** in its entirety and **SUBSTITUTE** with the following:
  - d. The payment for the Revegetation and Restoration includes the Project Biologist when required, furnishing the required reports, site observations, and bond(s), and shall be included in the lump sum bid item for the "25 Month Revegetation Maintenance and Monitoring Program" and the "60 Month Restoration Maintenance and Monitoring Program", in the Bid Items nine (9) and ten (10) (See Price Proposal).
4. To Attachment E, Supplementary Special Provisions Appendices, **ADD** Appendix H, Long-Term Revegetation Maintenance and Monitoring Agreement, pages 63 through 81 of this Addendum.
5. To Attachment E, Supplementary Special Provisions Appendices, **ADD** Appendix I, Long-Term Restoration Maintenance and Monitoring Agreement, pages 82 through 100 of this Addendum.
6. To Attachment F, Site Development Permit (SDP), pages 921 through 928, **DELETE** in their entirety and **SUBSTITUTE** with pages 101 through 146 of this Addendum.
7. To Attachment H, Price Proposal Forms (Cost Estimate), pages 936 through 942, **DELETE** in their entirety and **SUBSTITUTE** with pages 147 through 153 of this Addendum.
  1. For clarity where applicable, **ADDITIONS**, if any, have been **Underlined** and **DELETIONS**, if any, have been **~~Stricken-out.~~**

James Nagelvoort, Director  
Public Works Department

Dated: *November 2, 2017*  
San Diego, California

JN/JB/lji

## EXHIBIT C

### FIRE STATIONS AND FACILITIES DESIGN AND CONSTRUCTION STANDARDS

SAN DIEGO SDFD - LOGISTICS  
FIRE STATIONS AND FACILITIES  
DESIGN AND CONSTRUCTION STANDARDS

(Community Name)  
FIRE STATION No \_\_, SAN DIEGO

This document provides as guidelines only. Drawings and specifications developed for design and construction are subject to final review and approval by SDFD Logistics-Facilities Division. These standards are subject to change to comply with SDFD's latest operational requirements.

For Questions, contact: Michelle Abella-Shon @ [mshon@sandiego.gov](mailto:mshon@sandiego.gov)  
or (858) 573-1362

Last Update: 09-14-2017

## TABLE OF CONTENTS

	PAGE
A. GENERAL INFORMATION .....	4
B. FIRE STATION – INTERIOR.....	9
C. FIRE STATION – EXTERIOR.....	12
D. APPARATUS AREA.....	15
E. SPECIALIZED AREAS/ROOM.....	19
F. FIRE STATION LIVING AREAS.....	21
G. SLEEPING AREAS.....	25
H. BATHROOMS.....	26
I. EXERCISE / PHYSICAL CONDITIONING AREA.....	27
J. STORAGE ROOMS.....	27
K. PATIO .....	28
L. FUEL DISPENSING SYSTEM.....	28
M. STAND-BY GENERATOR.....	28
N. GENERAL PLUMBING.....	30
O. GENERAL ELECTRICAL.....	31
P. TRASH ENCLOSURE.....	32
Q. ADA.....	32
R. TEMPORARY DISPLACEMENT REQUIREMENTS.....	32
S. CAMERA MONITORING SYSTEM.....	35
T. FURNITURE FIXTURES & EQUIPMENT.....	36

U.	HAZMAT STATIONS.....	36
V.	STATION ALERTING & COMMUNICATION.....	36

## EXHIBITS

1. Station Alerting Current Standards Specifications

## ATTACHMENTS

- I. Surge protection building system
- II. Breathing air system compressor (requires 440 three phase power)  
<http://www.bauercomp.com/en/products-solutions/breathing-air-systems/firefighting/unicus-iii%C2%AE>
- III. Universal Storage rack for the storage of 12 SCBA bottles manufactured by .  
American Fire and Safety Equipment LC12-4-U.
- IV. Air compressor minimum of 60 gallon 200 psi vertical unit
- V. Exhaust Extraction system <http://www.plymovent.com/en/vehicle-exhaust-extraction>

## FIRE STATION DESIGN AND CONSTRUCTION STANDARDS

### A. GENERAL INFORMATION

The minimum requirements specified within shall supersede any or all other Citywide standards for compliance.

The following information has been prepared for fire station design requirements by San Diego SDFD - Logistics. These are presented as minimum requirements for Fire Stations, and specialty stations will have additional requirements. The requirements will be reviewed at initial design meetings and through design development, schematic design and so forth...

The design standard for this station is (10,500sf). This footage may vary based upon our needs in a particular area but serves as our baseline at this location.

A 10,500 square foot station would consist of a 3-bay apparatus floor, and accommodations for a fire engine company, a truck company, an ambulance and possible battalion chief quarters. . A total of eleven personnel + Battalion Chief Quarters could be housed at this station.

Many influences play into the actual design and layout of a fire station, both in new design on a vacant lot and replacement of an existing structure. These include the amount of available land, vehicle ingress and egress, the communities design desires, etc. Our preferred design is single story, but often we are constrained by the existing lots we occupy. When replacing a fire station in the densely populated areas of the city, we often do not have the ability to build a single story structure, and therefore look to creative design that may result in a two or three story facility.

We work very closely with the designers to ensure our needs are met in every fire station design. This document ensures we incorporate as much standardization as we can between projects.

Plans shall be prepared showing all details and notes required to provide the contractor with sufficient clarification and information to construct the project to the intended design. Specifications shall be in CSI format with all referenced standards defined in a supplemental manual and presented to San Diego SDFD - Logistics.

The design of the fire station shall consider the use of Green Building Technology in accordance with the City of San Diego adapting the Silver LEED Standard,

Leadership in Energy and Environmental Design, for facilities more than 5000 sq. feet. The design shall meet Title 24, ADA and ADAAG access standards. Clarification for design issues regarding ADAAG will be provided by the City as required. A statement shall be made on the cover of the plans and specifications noting that this is an essential service building and that the contractor is responsible for understanding and meeting all specific requirements and codes that apply.

Any items specified in this outline shall be confirmed to be the most current available products for the intended use.

### **1. Station Area: (Community being served by the station)**

Fire Station location and description.

### **2. Crew Size**

A standard fire station may accommodate upward of 12 personnel in the course of one shift depending on the apparatus assigned to station, including the following as required: A crew consists of 1 Captain, 1 Engineer, and 2 Firefighters/paramedics.

### **3. Fire Apparatus Vehicles**

The following fire apparatus/vehicles will be typically assigned to a fire station.

a. 1 triple combination pumper:

Length:	29-32 feet
Width:	10.0 feet
Turning Radius:	52.0 feet
Weight:	47,000 pounds

b. 1 aerial ladder truck

Length:	40-60.0 feet
Width:	10.0 feet
Height:	12.0 feet
Turning Radius:	Varies on apparatus, up to 65' radius,
Weight:	71,000 pounds

c. 2 miscellaneous vehicles (e.g., 2<sup>nd</sup> engine, B.C. vehicle, ambulance, brush rig or utility vehicles). Tandem parking is acceptable, in some circumstances; a drive through apparatus bay would be preferred

d. Approaches and driveways shall not exceed 4% grade.

**4. Communications and Paging System** using a system that will allow for individual crew company and dormitory alerting through audio and visual alerting systems. A specific company will be determined prior to construction and shall confer with the architect and Fire representative to insure that the communication requirements are met. The ATX box shall be located in the stations watchroom/office.

a. Provide a designated, Fire Station Control System alert paging system, with speakers located to be audible throughout the entire station and exterior areas under all conditions.

1. Provide the capability to turn station paging system off and on in designated rooms.

2. Provide exterior weatherproof speakers at all sides of station with an ON/OFF function wired to an automatic timer unit.

3. Provide automatically adjusting paging speakers located to provide complete audio coverage of the apparatus floor.

4. Provide speakers in all rooms, rest rooms and showers.

5. Provide conduit runs to the communication room from each speaker to allow for individual home runs.

6. The Communications Division requires that a conduit be installed at any new Fire & Lifeguard facility to meet present or future need to communicate with the City's wireless networks. While, not all facilities will need to utilize this conduit as the signal strength in some areas may be adequate for an internal antenna, there may be future systems that require an external antenna and the conduit/roof penetration. Both should be reflected in the design and the construction phases of the facility. The conduit is for the transmission line, not fiber optics.

Conduit for Transmission Line: The Communications Division requires a 2" conduit from the TELCO room to the roof. The conduit needs to penetrate the roof and be capped with a weather hood. When possible, use the most direct path between the TELCO room and roof. The Communications Division will provide the transmission line and antenna, and all necessary hardware to install. Plan review and final inspection will be conducted at

the project site by the IT Department of the Communications Division for approval.

7. An in-house telephone paging system will be installed to meet the requirements of the Communications and Electrical Division and the alert paging system. This system may be integrated with station alerting system

8. Provide an auto dial 9-1-1 phone to be used for emergencies only! Phone to be housed in an ADA approved and positioned red weather box with EMERGENCY 911 noted on the exterior of the box. This shall be located on the exterior of the station near the public entrance.



MFR: Viking

Model: E-1600A

Color: Red

Website: <https://www.vikingelectronics.com/product-details.php?pid=67#>

## 9. Security

a. The facility shall have a security fencing/wall and an electrically operated rolling gate at a minimum of 6' above grade. The coated chain link or wrought iron fence will be designed to provide security for City and personal property.

b. All rolling gates will be electrically operated with key pad, Knox Box key, and remote switch capability in station and using Delta III controller-receiver and have a metal guidance track mounted in concrete that will guide the gate to its predetermined closure point every operation and safety loops.

C. Station shall be equipped with a locally monitored remote camera system.

The system shall be configured to record only upon sensing motion. It shall be positioned to allow monitoring of the entire apparatus room, building entrances and employee parking areas.

## **B. FIRE STATION - INTERIOR**

### 1. Lighting

a. General illumination, energy efficient type lighting shall be provided utilizing LED generation energy efficient systems approved by the SDFD – Logistics - Facilities. Every effort shall be made to limit the use of non-standard light bulbs.

b. Natural lighting (including windows and skylights) shall be provided whenever possible.

c. Energy efficient lighting systems will be designed according to location and use, such as apparatus area, kitchen, and sleeping areas.

d. Provide a low mounted night lighting system in hallways, restrooms, common areas and apparatus bay and shall be controlled by a timing system.

e. Provide an emergency lighting system though out the station for selected light circuits in the station and apparatus bay.

f. Light fixtures will be equipped with timed motion sensor or occupancy sensors with manual override capability.

### 2. Doors and Windows

a. All exterior window and doors shall be constructed of a material that is not affected by sunlight, include dual pane with high performance Low-E4 glass, weather-tight frames, sashes and seals. A 1" aluminum slat blind shall be mounted to the inside of the window frame that will increase privacy, energy efficiency and minimize the cleaning and other maintenance of the blinds. Interior screens shall be made of aluminum mesh screen and included on all operable windows.

b. All colors for windows, doors, both interior and exterior shall be submitted and approved prior to notice to proceed.

c. All exterior windows shall be high quality, noise-reducing, dual insulated glaze (double or triple pane), temperature efficient designs, and UV protected. Second story windows shall have a tilt feature allowing cleaning from the interior. Windows shall be operable.

d. All exterior doors shall be 3' x 6'-8", (standard 3068) metal and hung on metal frames.

e. All interior doors shall be an exterior grade, solid wood-stave core, birch skinned, 3' x 6'-8", and swing in the direction of the apparatus floor area, except doors entering into a hall will open in.

f. Panic hardware is required on interior doors leading directly into the apparatus area.

g. Privacy locks and latch sets are to be utilized on interior doors which lead to sleeping rooms.

h. Lock set cores shall comply with the latest City of San Diego – Locksmith Standards.

i. Doors shall have fire rated window area as allowed by code, except at restrooms, dorm rooms, and storage rooms.

j. Doors leading to restrooms, apparatus room, and the exterior of station shall have mechanical closures.

k. Stainless steel push plates and kick plates will be installed on all doors

### 3. Floor and Window Coverings

a. Non-carpet flooring such as floating LVT/LVP (Luxury Vinyl Tile/Planks), stained and/or sealed concrete shall be utilized for personnel rooms, hallways, day rooms and other high foot-traffic areas. Additional floor insulation shall be added in sleeping areas for noise mitigation.

b. The kitchen shall be of floating LVT/LVP (Luxury Vinyl Tile/Planks), stained and/or sealed concrete.

c. All restrooms shall be stained and/or sealed concrete, tile or a one-piece vinyl flooring with minimum 4 inch integrated cove.

d. Watch rooms and dining areas shall be floating LVT/LVP (Luxury Vinyl

Tile/Planks), stained and/or sealed concrete.

e. Exterior windows will be provided with vertical blinds or 1" metal mini-blinds or 3" horizontal blinds.

#### 4. Walls and Ceiling Surfaces

a. Restrooms, kitchen, storage rooms, weight room, work room, communication room, and apparatus room shall be painted with 100% acrylic semi-gloss finish. All other walls shall be "Egg-Shell" finish.

b. Ceilings are to be drywall in restrooms, kitchen, and apparatus room; other areas may have drop ceilings as appropriate. Apparatus ceiling shall be enclosed with dry wall and insulated.

c. All outside corners within the interior shall be stainless steel guards.

d. Restrooms shall have tile wainscot.

#### 5. Central Air Conditioning/Forced Air Heating

Central air conditioning and forced air heating shall be provided in living areas as required to maintain 68-72 degrees. The system shall be designed to allow for easy cleaning of the units and ducting.

#### 6. Fire, Smoke, Carbon Monoxide Detectors and Sprinkler System

a. Fire, smoke, and carbon dioxide detectors shall be installed as required by the Uniform Building Code for Group B occupancies.

b. The building shall be provided with a complete automatic fire sprinkler system per existing code. If the station is located in an urban wild land fire area sprinklers may be required on the exterior of the building.

c. Sprinkler alarm shall be capable of being connected to a central monitoring station.

#### 7. CATV Wiring

a. Provide a central communication closet and all necessary conduit for cable TV to all designated areas and shall be wired and connected with cable television - service; outlets will be located in the day room, kitchen, personnel dorm rooms and weight room. Backing (if needed) in the wall

shall be installed at an elevated position in each designated rooms.

- b. Provide a CATV service connection to the facility from its nearest location/source.

### **C. FIRE STATION- EXTERIOR**

- 1.No landscaping shall be placed within 5' of the exterior of the fire station. Positive drainage shall be provided away from the station. Architects shall utilize drought resistant, low maintenance and water saving plants in their landscaping plans.
- 2.Exterior doors shall be 3' x 6' - 8" metal with metal frames, except front entry door which may be store front type or patio doors if approved by SDFD - Logistics.
- 3.Doorbells shall be interfaced with the station alerting system that rings all areas of the station. Doorbell to be installed on the front main public entrance.
- 4.When stucco finish is to be used, expansion joints and reveals shall meet or exceed code. Details shall be shown on drawings and described in Finish Schedule/Legend. The stucco finish shall have light lace and not have a heavy texture.
- 5.The roofs shall be designed as sloped roofs that are connected to a rain harvester with a 500 gallon tank.
- 6.Location of all roof drains shall provide positive drainage away from the facility.
- 7.The use of flat roofs shall be used to a minimum for mechanical needs only. These areas shall have positive drainage and crickets as needed to direct water to drains. Flat roof surfaces shall be SBS modified bitumen roof system with rock coating over Fesco® Board or equal. Mechanical penetrations shall be kept to a minimum, but when used, shall have a 12" SBS modified granular cap sheet at that area. Parapet walls shall be covered with the appropriate flashing material, and all copings are to be galvanized metal. All terminations in the roof shall be reflected in plan details. All areas of the roof shall have roof ladders for access and provide walking pads to all roof top equipment.
- 8.Sloped roofs using standing metal seam systems shall be reviewed and approved by Fire Logistics.

9. Rain gutters shall be seamless unit and independent of the other roof systems. Rain gutters must be able to be removed and replaced without compromising the integrity of the roofing, flashing, or building finishes. Gutters shall be designed, sized and installed in a manner to catch water shed. Internal roof drains shall be insulated to minimize interior noise in living areas.
10. Hose bibs shall be provided at each side of the apparatus room, the patio, at each corner of the building, as needed at maximum 75' intervals and at the trash enclosure. Provide a 2 ½" supply line off the fire sprinkler supply with a 2 ½" hose bib with National Standard Pipe tread, controlled with a bronze ball valve, located next to the above ground fuel tank if tank is required. 4" protective bollards shall be installed to protect riser.
11. Private Vehicle Parking Areas Driveways and Security Fencing.
- a. A private parking area shall accommodate, as space allows, 2 (two) parking spaces per assigned crew. (Note: Minimum 11 spaces + ADA. Double house requires 16 spaces).
  - b. The employee parking area shall be enclosed with a 6 ft. high vinyl coated chain link fence, wrought iron, or concrete block wall. The gate shall be rolling type, electronically controlled by code pad, Knox Box key control, and Linear remote.
  - c. An unfenced visitor parking area shall be provided for two visitor spaces, and one ADA compliant space near the front door.
12. All outside driveways and aprons adjacent to the apparatus room floors shall be constructed on class II base at a minimum of 8 inches, 5000 psi concrete, with steel reinforcement at 12" on center each way, designed to accommodate the department's fire apparatus heavy-duty equipment. All other outside paved areas such as walkways, parking areas shall be a minimum of 6 inches, 4000 psi concrete, with steel at 12" on center each way. All concrete shall be positively slope for drainage; catch basins will be required to comply with Storm water regulations.
- a. Bollards – To be placed a minimum distance of 8" from any structural foundation. Bollards shall be placed, as required, at entry points of apparatus bays.
13. There are two Baby Surrender Signs required. Signs shall be provided by the City and installed near front entry visible from the street.

#### 14. Outdoor/Exterior Lighting

- a. Outside lighting shall be LED and photocell controlled with a switch override, to illuminate the parking lot, front porch, patio and the general surrounding area of the fire station.
- b. Working lights shall be provided at the exterior front and rear of the apparatus room. These fixtures will be controlled with individual switches.
- c. A red light shall be located near the entrance of the fire station; the light will be controlled with a photocell.
- d. Two lights shall be located to illuminate the flag pole. These shall be controlled by a photocell in series and have a switch to override the lighting. Installation of these lighting components shall not be in the ground.

#### 15. Landscaping

- a. Provide low maintenance, drought tolerant landscaping with irrigation systems and automatic timers. Use of artificial turf may be considered.
- b. Irrigation shall have a separate meter. Reclaimed water will be considered.
- c. The landscaped areas shall have good drainage away from the building and off the lot.

16. Fire Station Exterior Signs: The fire station sign shall be approved by the SDFD - Logistics. The sign should read "City of San Diego, FIRE STATION \_\_\_\_". The size of the letters is to be a minimum of 8" and 10". The font style shall match with the architectural style of the building.

17. Address characters shall be a minimum of 12" high, visible from the street, and illuminated.

18. Flagpole: Provide a 30', ground mounted aluminum flagpole capable of accommodating a 4'x6' flag and flagpole lighting.

19. Provide a mailbox in accordance with Postal Service requirements. All fire stations shall have a lockable self-standing mailbox on post, approved by USPS. Final location shall be near public access area and shall be approved by SDFD. No mail slots will be accepted due to lack of space for non-standard mail such as packages, etc."

20. Fire Hydrant: a fire hydrant with one 2 1/2" and one 4" outlet shall be positioned near the driveway at the front of the fire station and on the same side of the street, adjacent to the driveway. When drive-through capabilities exist, the hydrant shall be placed near the rear of the station driveway on the driver's side.

21. Traffic Control Device (Opticom Pre-Emption Device): The installation of traffic control devices enable egress from the station shall be considered with regards to station location and traffic signal controls in the area.

**D. APPARATUS AREA:**

(No pre-engineered buildings, i.e. "Butler Building", shall be used.)

1. The apparatus room shall, where possible, have a drive-through capability and shall provide 2 (two) to 4 (four) bays as required by number of apparatus and will be defined in design development. Bays shall be a minimum 72' in length and provide 14' apparatus doors, both in height and width unless otherwise approved.

a. The apparatus area shall be capable of housing 3-6 vehicles in any combination of the following:

- 2 triple combination pumpers (1 for front line, 1 reserve)
- 1 Aerial ladder truck
- 1 Brush rig
- 1 Ambulance
- 1 Battalion Vehicle
- 1 Utility Vehicle

b. The apparatus room shall be provided with passive and positive ventilation. A diesel exhaust pneumatic system shall be installed to enable the capture of vehicle exhaust once attached to apparatus. Currently, only one exhaust capture system, manufactured by Plymovent® Company, is certified for use as a drive through system installation. Any system being submitted as an equal shall be reviewed and may be subject to testing and approval by SDFD before any design or installation is allowed.

c. The apparatus room shall be constructed without columns in the open space area.

d. Apparatus Floors shall be a smooth sealed concrete finish.

2. Commercial quality overhead doors shall be provided at the front and at the rear of the apparatus area, for each bay.

- a. Doors are to be individual for each apparatus. One single large door is NOT to be used. Doors shall be sectional and not roll up. Doors shall have a 100,000 cycle heavy duty spring. During operation each door will have a safety strobe light indicating while the door is opening to full height.
- b. High Speed Doors with a million cycles shall be considered where ingress/egress factors and/or concerns are justified.
- c. The apparatus door dimensions are as follows:
  - i. Height: 14 feet
  - ii. Width: 14 feet
- d. Apparatus doors are to be the overhead sectional type, electrically-operated type. Each door will have a separate electric eye and electrical safety device to prevent contact with fire apparatus. Eyes shall be set at 2.5 feet above floor to intersect the vehicle bumper.
- e. Doors are to be able to be operated both at push buttons located by each door, a master control panel adjacent to the main apparatus floor door entry. Doors operators shall be compatible with Linear Delta III controller receiver or equivalent. The receiver antenna shall be located to receive a signal from the street.
- f. Buttons shall have open and close positions.
- g. Vision panels are required on each door at approximately 5'6".
- h. All doors shall be wired to the emergency electrical circuit to facilitate continuous operation. Cut-off switch shall be installed at each door within reach, for maintenance & repair purposes.
- i. Doors are to be factory finished with powder coating.
  - I. Apparatus doors shall have the ability to have a manual override enabling the door to be opened manually in less than 1.5 minutes
  - II. Doors shall have a light-base signal system, alerting the driver when the door is fully open or not fully open. Example:

- = door not fully open
- = door fully open

3. Apparatus room floor shall be a minimum of 8 inches, 5000 psi concrete, and reinforced with re-bar 12" on center.

a. The apparatus floor shall be poured in keyed sections using greased rods to connect each section.

b. Sections shall be poured in a manner to slope to floor drains at each bay.

c. Where the concrete comes in contact with side walls, front and rear driveways, and any other surface, the floor will be fitted with zip cap felt and caulking.

d. The finished concrete shall be cleaned and sealed in the final phase of finish construction. (Notes shall be made on the drawing to protect the concrete finish through out construction and sealant submittal shall be provided to SDFD for review and approval prior to sealant being applied.)

4. Floor drains are to be located to have 2 (two) drains in each bay located under the apparatus. These are to be connected to an oil separator as required by code.

## **5. Apparatus Area Walls/Wall Space**

a. Stem walls shall be a minimum of 6" high with 4' high ceramic tile wainscot with an integral-covered base.

b. A smooth 10'x 11' framed wall surface shall be provided for a district map. Sizing of the framed wall surface will be determined based on the required response area, further coordination is required prior to the construction of the wall map(s). This shall be constructed of 3/4' plywood, edge banded, joints sealed and painted white to take sizing/ paper. The appropriate LED lighting shall be provided over the map area, and switched next to the map. Provide a clear Plexiglass type or similar protection cover for the entire wall map.

c. A wall mounted 3'x4' whiteboard shall be provided adjacent to the apparatus floor telephone.

## **6. Exhaust Extraction System**

- is an automatic mechanical ventilation & diesel exhaust extraction system

that is connected to the vehicle exhaust- to remove diesel particulate exhaust gases for fire trucks & ambulances.

a. Adequate separation between the apparatus room and the living area shall be provided to prevent the transmission of vehicle exhaust from the apparatus area to the living areas of the station.

b. Mechanical ventilation shall be provided for the apparatus area with direct hookups to the apparatus exhaust pipe removing 100% of engine exhaust to the outside of the station.

c. The ventilation system shall be automatically activated and have the ability to provide drive through or back in operation.

d. System shall be SDFD - Logistics approved to insure compatibility with Fire apparatus of various kinds.

7. Lighting shall be provided between each bay with some remaining on at all times (refer to section B for additional lighting requirements), and have the ability to have the remaining lights to be switched on and automatically come on when the paging alert system activates (This requires a relay at the communication room.

8. Drop cords shall be provided on the driver's side of each vehicle. Each drop is to be on its own circuit. The cord shall be 12/3, 600V, and water resistant. The cord shall have a rubber coated, water proof bell box with a rubber coated lid, HBL17CM85, having a built in switch and an "On" indicator light no greater than 48" from the finish floor. The cord will terminate with a female 20 amp connector. A 2' (two) foot break away section will be added to the female termination having a 20 amp male fitting on one end and a 20-amp female, on the other end. The 20 amp end is to hang 12" from the floor. Drop cord junction box at ceiling shall be positioned at 1 foot away from the center of the door on the driver's side and 12 feet back from the inside of the apparatus door opening. When necessary, a 30 amp connector may be required by Fire for certain apparatus.

9. Provide electrical outlets along all walls spaced at 12' intervals, on walls between apparatus doors, and on any stem walls.

10. A compressor capable of 150 psi, Ingersoll-Rand 2475N5 W/ starter, shall be installed and plumbed to provide access to designated areas of the apparatus room. Plumbing shall be sloped to water separator and have ¼" quick connections.

**E. SPECIALIZED ROOMS/AREAS** (WASH ROOM, WORK ROOM, ELECTRICAL ROOM, MECHANICAL ROOM, LOCKER ROOM, WEIGHT ROOM, COMMUNICATION ROOM and BREATHING AIR MECHANICAL ROOM)

**1. Wash room** shall be provided for a Speed Queen Commercial Washer, Model SFNNCASP113TN01 and Speed Queen dryer, or acceptable equal, deep sink, adjustable shower head in the de-con area, and a hose bib.

- a. The wash room shall be finished in tiles with a central floor drain.
- b. A mop service floor basin will be provided, being 4' x 5' in the clear w/ shower head.
- c. A wall mounted deep stainless steel sink shall be provided in this area.
- e. Provide area to accommodate washer and dryer. This area for the washer shall have hot and cold water, a drain for a commercial washer. The dryer area shall be capable of being gas (preferred) or electrical, and be vented to the exterior.
- f. Provide an air dry laundry rack – freestanding in accordance with the FF&E list. Drain is to be installed under the rack.

**2. Work Room**

- a. A work room shall be directly adjacent to the apparatus area.
- b. A 30" x 8' work bench constructed with a solid 1 1/2" hardwood top covered with galvanized sheet metal. A storage base cabinet with doors mounted on Rockford Process Control 851 overlay hinges and drawers on heavy duty glides shall be provided below the work bench. Upper cabinets shall be provided. A space with backing shall be provided for mounting a 5" heavy-duty vise on workbench top.
- c. A floor drain shall be installed in this area going to the oil separator.

**3. Utility/Water Heater Room**

Provide a separate area for a commercial quality water heating system w/ recirculating pump system and all required pipe insulation.

**4. Electrical Room**

An electrical/mechanical room shall be located in a manner that would allow access by San Diego Gas & Electric Company or solar provider of equipment. This room shall be separate and accessible from exterior and shall not include any City IT infrastructure.

#### **5. Communications/IT Equipment Room (Data, Cable, Communications, Etc.)**

- a. The communication/IT room shall be a minimum of 6' x 10' in the clear.
- b. The room shall be air conditioned or conditioned from an adjacent room though louvered doors.
- c. One 10' wall and one 6' wall shall be covered with 3/4" plywood, good one side, beginning 3' off the floor and extending to 8'. The area in front of the 4' wall shall be kept clear to provide for the installation of a computer rack by others.
- d. Provide conduit and pull boxes to accommodate City's cable contractors to pull cable cords to all rooms requiring communication connections, including phones, cable TV, Data and Alert System. All cabling is provided by Cable Inc. in order to obey City and Xerox (or the City's current approved vendor) standards for all of Communications requirements. This may change in the future.
- e. Provide four (4) circuits in communication room in double duplex boxes. Each circuit shall be on emergency power.
- f. Provide a two-inch conduit between the communication room and a weather head mounted riser of 3 feet in length on the exterior of the building. This shall be located on a high portion of the building next to a location for an antenna mount. An antenna mount shall be provided using two Unistrut post placed 2' apart securely attached to the building.
- g. Conduits should be 2" (PVC Interior, Rigid Galvanized Conduit Exterior). Unless otherwise specified.
- h. 800 MGHZ Antenna and City Fiber Optics connect to roof via 2" Rigid Galvanized Conduits. Location of city fiber optics to be verified by city's IT Communications Division.

#### **6. Storage Room / Hose Storage Area with floor drain:**

Provide an exterior storage room 5' x 9' with a vented door.

## **7. Locker Room:**

A turn out gear locker room shall be provided to house the required number of lockers for the crew size. The room shall include its own mechanical system to be vented to the exterior and enclosed with doors.

- a. The number of lockers shall be for a crew of 6 is 36, for a crew of 10 is 60, for a crew of 11 is 66, and 12 is 72.
- b. The locker room shall be located next to the apparatus room. The room and lockers shall be provided with passive and positive ventilation independent of the station.
- c. The lockers, without legs, shall be installed on a raised concrete pad, 4 inches in height.
- d. The lockers shall be heavy duty, non-rusting, 45% or greater ventilated metal, 24" x 24" x 72"; 16 gauge steel, slope tops, bottoms and sides; 14 gauge steel doors with recessed handles with padlock attachment, and space for name tag. The lockers shall have a shelf at the top and three (3) each paired hooks, one on each side and one on the back.

## **F. FIRE STATION LIVING AREAS:**

**1. WATCH ROOM /RECEPTION AREA:** The watch room shall be, approximately 10' x 15', large enough to provide for;

- a. Two built in standard 30" x 60" desks with two swivel chairs.
- b. Counter space for two computer monitors & terminals 23" W x 15" D, one printer, fax, and copier all in one, and two desk top telephones.
- c. Provide three legal size file cabinets with four drawers each.
- d. A built in wall mounted, four shelf bookcase/storage spaces (48"x36") that can be locked to provide security of contents.
- e. Provide electrical outlets for two computers, printers, fax machine, and table top cable grommets in proper locations near work stations. These are to be on emergency power.

f. Provide 1 inch conduits for four (4) phone/data lines two (2) for phones one for computers and one for fax.

g. Provide a counter for public near front entry with ADA approved section.

h. Provide a window to the exterior of the entry way.

**2. MAIN ENTRY DOOR:** The main entry door and entry area shall be located next to the watch room/office and have an ADA rest room adjacent to this area.

**3. DAY ROOM:** The day room shall be large enough to house the number of crew assigned to the station in large chairs (1 ready chair per crew member). Chair materials shall be bed bug proof. The day room is to be used for training and is to be separate from the kitchen and dining area. Room size will be determined by Fire Logistics.

a. Provide a wall mounted dry-erase board (4' x 8'), with a bottom shelf, which can also be used as a projection screen. (Motorized Ceiling mounted screen is an option).

b. Provide a wall mounted bulletin board (3' x 6').

c. Provide a built-in bookcase approximately 4' x 6', shelves are to have 1 1/4" edge facing on the front and be adjustable.

d. Provide built-in cabinet space for up to a stand alone 70" TV and DVD player, with access to a double duplex outlet and cable TV outlet. This unit may be designed with the book shelving.

e. Floor finish to be reviewed and approved by Fire-Logistics (May be LVP/LVT or concrete finish).

#### **4. KITCHEN AND DINING AREA**

a. The kitchen and dining rooms may be designed together or considered separate. The area of the dining area shall be (15 -20) x (20-25) and the kitchen shall be (14-16) x (16-20). If the two are to be open to each other sufficient wall space will be considered to allow adequate cabinets for storage.

b. The floor of both areas is to be a concrete, porcelain and/or LVP/LVT.

c. Cabinet Space Storage Space:

1. All cabinets shall be Wood Institute Criteria (W.I.C.) premium grade.
2. The sides, bottoms, will be  $\frac{3}{4}$ " thickness and backs are to be  $\frac{1}{2}$ " exterior marine plywood or equivalent. The doors are to be of solid wood. The top is to be  $\frac{3}{4}$ " ply as a backing for stainless steel counter top. Shelves shall be  $\frac{3}{4}$ " marine plywood or equivalent covered on both sides with laminate, edge faced with 1  $\frac{1}{4}$ " banding, and be adjustable. No particle board with melamine. Cabinet boxes will be face frame finish, solid paint grade hard wood.
3. Cabinet doors are to be installed with SS Rockford Process Control® hinges 851-26D. Doors and drawer pulls to be Berenson® 0804-2BPN- P or approved equivalent. Drawers and pull-out shelves are to be constructed of Baltic Ply with self-closing full extension drawer guides. (Bloom self-closing or Accuride self-closing drawer glides, full extension)
4. All cabinets exposed interior surfaces including shelving shall be plastic laminated material.
5. Provide four separate pantries, each pantry is to have individual lock and key, the minimum size of each pantry is 2'x2'x8', and adjustable shelves are to the same as above.
6. Provide cabinets over the kitchen counter to assure adequate storage space for dishes and food. Depth of upper cabinets shall be 12 inches in the clear (14" in depth). Provide a section to house a microwave oven in the uppers with electrical receptacle.
7. Base cabinets counter tops shall be 37  $\frac{1}{2}$ " high with drawers on heavy duty, self-closing glides. Cabinet space shall be maximized to provide adequate storage for utensils, pots and pans, and food. The sink base cabinet shall be 40" wide.
8. Provide a one piece stainless kitchen counter with full back splash to bottom of upper cabinets and a built-in large double sink. Counter top shall be 16 gauge, 304 stainless steel with marine edge on front and exposed ends and extend over the edges of drawers and doors. Integral built in sink to be #4 finish, 14-gauge, bottom coated, one side of the double sink is to be 18"x18" and 10" and the other is to be 18" x 18" x 8" deep; sink is to have a 3-holes for faucet plus two holes for pre-rinse spray accessory and filtered water spigot. Provide 22 gauge, 304 stainless steel, for wall covering from

counter top back splash to underside of upper cabinets. Provide electrical outlets with stainless steel cover plates. Provide a heavy duty (minimum 3/4 horsepower) SS garbage disposal.

- a. All fire stations shall provide a separate accessible kitchen sink and countertop which complies with ADA regulations.

9. Provide stainless steel dishwasher with electrical and plumbing for operation.

10. Provide cabinet door for opening equal sized to the dishwasher to provide for a trash receptacle and continue adjacent floor covering into this area.

11. Provide commercial gas range as referenced in FF&E standards attachment.

d. Wall and Floor Surfaces

1. Walls shall be painted with 100% acrylic paint with a semi-gloss surface.

2. A stainless steel wall surface is required adjacent to the range cooking surface, including the sides of the cabinets. Use 22 gauge, type 304 brushed stainless steel.

3. Floors shall be covered with a porcelain, non-porous tile, ceramic tile or acid stained concrete finish. **TBD**

4. A floor drain shall be provided, with the appropriate floor slope to drain.

e. Refrigerators: Provide space, water supply for ice makers, and electrical outlets and ventilation for a minimum of four 36" wide refrigerators. SDFD - Logistics will provide refrigerators.

f. Double house stations shall have a Manitowoc® under counter ice machine installed next to the four refrigerators.

g. Wolf, Gas Range Double Oven: Model # C60SS-6B-24G-N, Provide space to accommodate a 60" wide, Commercial heavy duty gas range and oven, on lockable caster wheels. The adjacent cabinet sides and rear wall shall be covered in stainless steel and have no exposed combustible material.

**Note:**

For all SDFD facilities which require a commercial stove, fire stations are considered zone R-3

no commercial cooking takes place, unlike a commercial rated occupancy, such as a restaurant, which triggers requirements for kitchen type I hood suppression systems, grease collector. Although, the California Fire Code (CFC) Section 609.2 requires a Type I hood for commercial cooking appliances. Commercial cooking appliances is a term that is defined in the CFC as an appliance in a commercial food service establishment. CFC Section 904.12 states that commercial cooking equipment that produce grease laden vapors be provided with a Type I hood and a fire suppression system. Extrapolating from the code requirements and the definition of a commercial cooking appliance: **(A kitchen hood suppression system, should not be required for a Fire Station, since the cooking appliance is not used for a commercial food service establishment.)** This code interpretation for exemption has been relayed to the City's Development Services Department reviewers and building inspectors (Date: Feb 2017).

h. Range Hood:

1. Install a stainless steel commercial grade or equivalent hood sized to extend 6" beyond each stove edge (varies by stove model). A 60" range shall be provided and the hood shall be compatible with BTU output of the provided range.
2. Range hood shall include two (2) lights, a two-speed, roof-mounted exhaust fan with a 3/4 HP motor capable of proper CFM, and removable, washable stainless steel filter screens. The hood shall conform to Health Code, U.B.C., U.M.C., and N.E.C. as adopted by the City and County of San Diego.

i. Provide a cabinet space and electrical outlet for a 1.5 cubic foot microwave oven.

**G. SLEEPING AREAS:** All dimensions are in the clear.

1. The Battalion Chiefs quarters are providing a 10' x 10' office separate from a 10' x 12' dorm area with an attached restroom (approximate total area of 20' x 32').
2. The Captains room is to be 10' x 12' or larger with an attached restroom. A restroom is to be provided for each captain.
3. The fire fighters and medics are to have 10' x 12' or larger rooms, in the clear.
4. Sleeping areas shall be located to minimize disturbance when one crew is called to respond. Each room shall be insulated and have sound battens on adjoining walls.

5. 4 Lockers are to be provided in each dorm room.
  - a. Four wooden wardrobe lockers shall be located in each room. (See drawing)
  - b. Lockers shall meet San Diego SDFD - Logistics' personnel locker specifications: Three standard-sized lockers at 2' - 10" (34") wide x ceiling height and one sub-standard locker at 1' - 6" (18") wide x ceiling height. These 4 lockers occupy the entire length of a typical fire fighter dorm room of 10' x 10' on one side. Lockers shall have ventilation holes.
  - c. Provide a Master 60 padlock eye for lockers.
6. Desks tops are to be built into each room. The crew rooms are to have 30" desk top units. The Captains are to have a 5' desk with a file drawer and pencil drawer. The Battalion Chief is to have a 6' desk in their office with drawers on each side and a pencil drawer.
7. To comply with department's policy in addressing bed bug infestations, no built-ins for the bed frame/storage. Instead, a traditional bed frame, with extra-long twin box spring and mattress shall be provided.
8. Lighting, (all Lights are to be on motion sensors and manual override)
  - a. Provide LED wall mount lighting above each desk and bed with individual control.
  - b. The overhead lighting fixture is to be individually controlled from within each room.
  - c. Provide an exterior window to provide natural light.
9. Cable & Electrical connections are to be provided in each dorm.
10. Data & Electrical connections are to be provided in each dorm at Desk.

**H. BATHROOMS:** Battalion Chiefs and Captains will have individual bathrooms attached to their dorm rooms and the remaining crews will have one bathroom per each 2 dorms with a minimum of 2 individual bathrooms.

1. Individual bathrooms will be provided that will accommodate separate male and female occupancy.

2. Provide a shower with a minimum of 82" shower head, a sink and a floor mounted water closet per each two (2) fire fighters/ medics.

3. If partitions are to be used, they shall be Phenolic or solid plastic type, with SS hardware, and no metal partitions.

4. The showers shall be 48" x 48" (4' x 4'), minimum height for shower head shall be a minimum 82", from finish floor, with individual drying enclosures, if required, which will be contiguous with their respective showers. The enclosure will have a folding seat with phenolic seat and SS frame, as Bobrick B5191, two (2) SS hooks, Bobrick B-7676, a 24" surface mounted towel shelf with towel bar. The shower shall have a soap dispenser compatible with SDFD supply, a shelf, Bobrick B-204-16 and a shower door will be installed. The drying area, if required, shall have a privacy door. Showers pans are to be hot mopped in or have a solid terrazzo or equal pan. The tile at the shower area is to be epoxy grouted.

5. Lavatory sinks are to be mounted on 37 1/2" cabinets, specified to match the kitchen in quality, and to be epoxy grouted tiles on sealed wonder board or solid polymer. The mirror will be constructed with a SS frame, as Bobrick B290, size call out varies with opening size, minimum 2' x 2'. A liquid soap dispenser shall be compatible with soap stocked by Storeroom, and a paper towel holder as Bobrick, B-359, a SS towel hook shall be adjacent, Bobrick B-6777 or towel bar, Bobrick B-205.

6. The water closet shall be enclosed by walls or partitions and have a double roll toilet paper dispenser, Bobrick, B6867.

7. Floors shall slope towards floor drains and be finished in tile, LVT/LVP, finish concrete or as approved by Fire-Logistics. The walls are to have tile wainscot to 4'.

**I. EXERCISE / PHYSICAL CONDITIONING AREA:** An exercise room or physical conditioning area shall be provided in the fire station. This room shall be a minimum of 600 SF and be provided with windows and have HVAC. The walls will be backed with a minimum of 3/4" ply with drywall covering, and have backing to mount weight equipment. The floors shall be on concrete or have double 3/4" plywood and be covered with commercial grade gym quality rubber matting. Also provide a cable, data & power connection.

**J. STORAGE ROOMS:** Provide two (2) mini storage rooms inside the station at each floor, each storage room are to be minimum 30 SF and have adjustable shelves; one is to have a lock fitted door for medical supplies. An additional exterior storage

room is to be provided with a minimum of 30 SF.

**K. PATIO:** Provide a private patio with a gas outlet, electrical outlet for a barbeque and switched lighting. Patio shall be sized to accommodate the number of crew that the station design provides for. Patio flooring shall be a washable surface and sloped to a floor drain.

#### **L. FUEL DISPENSING SYSTEM**

1. Above ground 1000 gallon fuel tank and pump shall be provided and shall comply with current Federal, State, County, and Local requirements including Storm Water and Fire Marshall. Tank shall be UL approved and be approved by the City.
2. The fuel dispenser shall be located in a place with minimum visibility and access to the public, but easy access to the driver's side of the apparatus.
3. Provide a 20' retractable hose which connects from the nozzle to the fuel dispenser. The nozzle shall have an automatic shut off feature.
4. Provide an emergency shutoff switch in an approved location, clearly visible from the refueling area.
5. Outside lighting shall be provided in the refueling area.
6. The tank shall be placed on a concrete pad sloped to drain rain water at a self-closing valve and a curb containment around it. The tank shall be shimmed to be level.
7. A hose bib or other water supply shall be provided in the refueling area.
8. Provide a 2 1/2" stand pipe with American National Standard threads and ball valve shutoff.

#### **M. STAND-BY GENERATOR**

1. A diesel-fueled stand-by generator shall be provided for continuous standby service and sized in accordance with the facility electrical load calculation. The unit shall have a weather/sound enclosure.
2. The fuel tank shall be integrated with the generator and have remote fill capability, with a monitoring and shut-off capability. Tank will be sized to provide 48 hours of operating run time and shall meet all applicable codes

and regulations. When the location of the generator and fuel tank are in close proximity (10') the fuel can be supplied by the fuel tank. The fuel line can be exposed and have a gutter under it leading to the curbed area around the tank. Fuel capacity of above ground fuel tank and generator day tank shall not exceed 1300 gallons.

3. A trickle charger shall be installed to maintain proper charge of generator batteries and a remote monitoring panel shall be located in the office.
4. The stand-by generator shall operate the following locations as a minimum: overhead doors, all communications equipment including air conditioning, phones, alert monitors with amplifier, kitchen appliances and refrigerators, minimum selected lighting throughout the station including apparatus floor and map area, fuel dispensing systems, exhaust extraction system.
5. The generator and its engine shall meet the most current Federal, State, County and Local laws, regulations, standards, and codes. The engine shall be certified, and meet all State and local EPA standards.
6. Design specifications shall incorporate a requirement of the general contractor to provide for the permitting of all regulatory mandates including the construction, start-up and operation permits.
7. Minimum Distances between Generator and Bldg. & Lot Lines:

**TABLE 5705.3.4(2) REFERENCE TABLE FOR USE WITH TABLE 5705.3.4(1)**

<b>TANK CAPACITY (gallons)</b>	<b>MINIMUM DISTANCE FROM LOT LINE OF A LOT WHICH IS OR CAN BE BUILT UPON, INCLUDING THE OPPOSITE SIDE OF A PUBLIC WAY (feet)</b>	<b>MINIMUM DISTANCE FROM NEAREST SIDE OF ANY PUBLIC WAY OR FROM NEAREST <u>IMPORTANT BUILDING ON THE SAME PROPERTY</u> (feet)</b>
275 or less	5	5
276 to 750	10	5
751 to 12,000	15	5
12,001 to 30,000	20	5
30,001 to 50,000	30	10
50,001 to 100,000	50	15
100,001 to 500,000	80	25
500,001 to 1,000,000	100	35
1,000,001 to 2,000,000	135	45
2,000,001 to 3,000,000	165	55
3,000,001 or more	175	60

By the chart in the Fire Code - it will comply with distances from Bldg.'s/ if the Distances to Property Line cannot be complied with. In Lieu of Distance—a Non-Combustible-(Masonry) 2 hrs. Fire Barrier- 18" above and 18" beyond the front of the Tank or Generator set is constructed.

**N. GENERAL PLUMBING:**

1. Toilets shall be floor mounted with water saving flush valves.
2. The kitchen, restrooms and apparatus bays shall have floor drains with trap primers. Primers are to be solid brass or bronze, no plastic parts, and are easily accessed via inspection panels.
3. Hose bibs on the building shall be ¾ turn ball valve and installed with box housing and be key controlled type. They are to be located on each side of the apparatus bays and at 75' intervals.
4. Plumbing walls shall have 2" x 6" studs.
5. All hot water pipes are to be insulated.
6. All angle stops shall be ball type with 2 A FIP.
7. Shower valves and head are to be Moen, posi-temp, Model T2444 + 25902.

8. Kitchen faucet is to be Chicago, hot and cold single wing handles, high rise swing spout with hose and spray, Model 1102 CP, or approved equal.

9. Lavatory faucets are to be single handle, Moen L4721.

10. Provide gas outlets for hot water, range, barbeque, clothes dryer and HVAC. Each outlet shall have an individual shut off valve.

11. All PVC and ABS pipes and fittings shall be solvent welded. Pressed fittings are unacceptable.

12. All water plumbing shall be copper tubing, type L.

## **O. GENERAL ELECTRICAL**

1. All exterior lights shall be energy conserving LED and time clock controlled and motion sensors with manual shutoff.

2. Cost and standardization of replacement bulbs will be considered in selection of fixtures.

3. Flexible conduit should only be used to connect motors and for lay out of fixtures.

4. All receptacles and switch boxes shall be 4" x 4" x 1/2" with mud rings.

5. Telephone systems, computer systems, radio communications and cable television systems shall be designed in the building development using conduit.

6. Computer systems shall be on dedicated circuits.

7. Use stranded conductors for all feeders and branch circuits.

8. All wall switches shall be commercial grade, heavy duty, 20 amp, 120v/277v and duplex receptacles shall be commercial grade heavy duty, 15-20 amp 120v/277v.

9. Wall plates shall be Stainless Steel. Galvanized steel can be used in Apparatus Bay areas.

10. Use LED light systems where ever possible. No incandescent lamps.

11. Provide a wire marker on each connector in the pull panel, pull boxes, and junction boxes. Label the inside of all cover plates and the junction boxes with the circuit number.
12. Connect all wiring device grounding terminals to an outlet box with bonding jumper.
13. Provide source protector (surge protection) for power entering the building.
14. All outlets on emergency back-up generator shall be noted of wall plate.
15. The Public Emergency Red Phone requires a ¾" conduit from the Telco Room. City's current vendor (Cable Inc.) will pull a Cat6 cable run for the dedicated AT&T analog line. If "low-voltage" cable is available for a bell, speaker device, a 2" conduit both be run on the same conduit as being all "low-voltage".

**P. TRASH ENCLOSURE:**

Adequate enclosed space shall be provided for garbage containers (10'x6'x6' high minimum) or dumpster containers to accommodate trash and recyclables. Location and sizing of trash enclosures to be determined by Fire-Logistics.

**Q. ADA COMPLIANCE:**

Fire Station facilities must comply with current American with Disabilities Act (ADA) requirements in consultation with the City Attorney's Office and the ADA office. Please consult directly with Fire-Rescue Facilities Manager to discuss & coordinate compliance review. Each project is reviewed on a case by case basis.

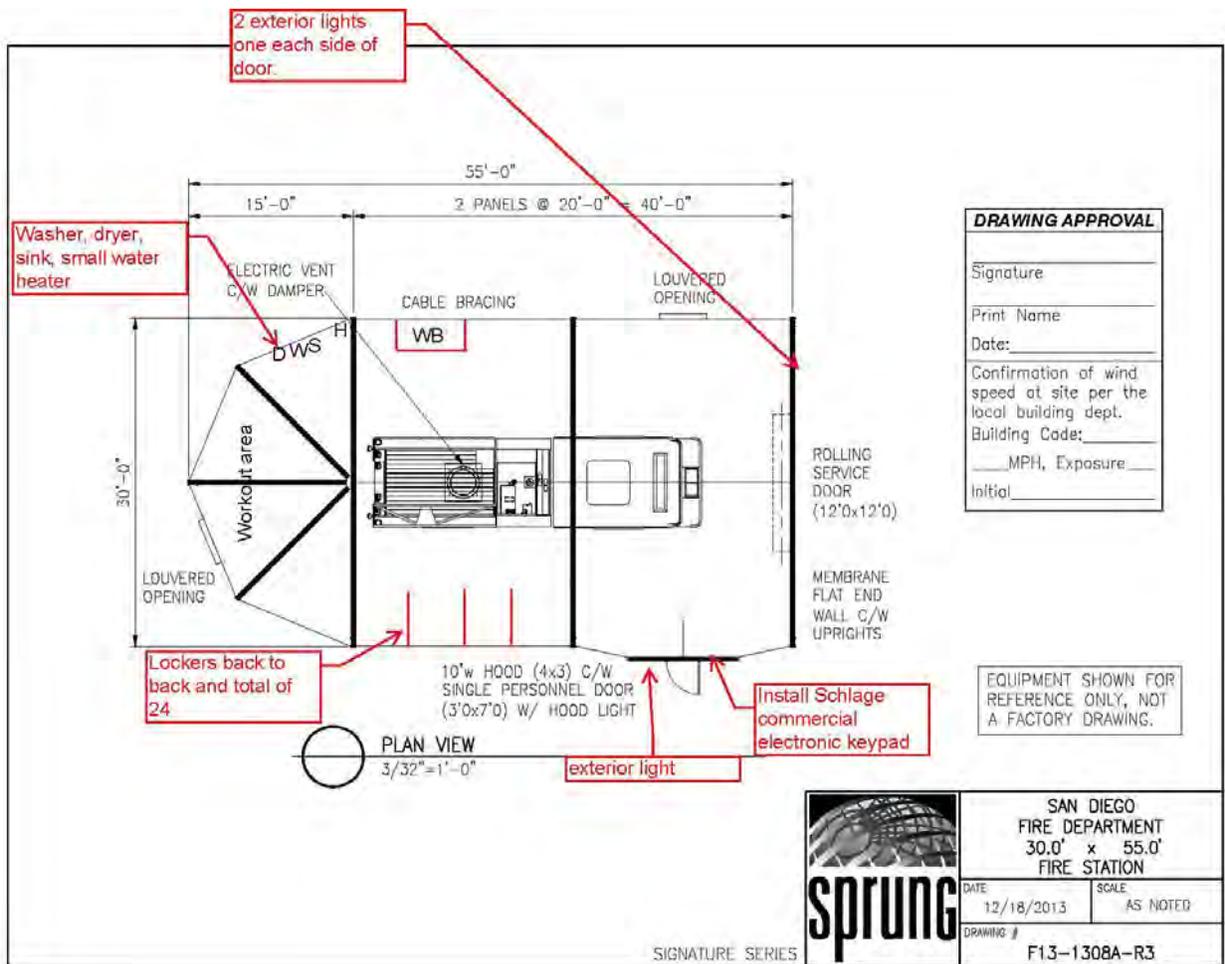
Note: Fire stations must provide one ADA-compliant public restroom. One of several bathrooms designed for the fire crew must be "adaptable" by providing a temporary shower curb that can be removed if needed, while ensuring the prevention of potential drainage issues. Other design alternatives include: providing a shower wall towards the door and have an opening on one side for access or shower enclosure, in lieu of a curtain. A portion of the kitchen island/countertop must comply with ADA requirements by providing ADA 30" wide sink and an adjacent 30" wide countertop at 42" height from Finished Floor (FF).

**R. TEMPORARY DISPLACEMENT REQUIREMENTS (IF APPLICABLE):**

1. Fire Station facilities that require complete demolition of an existing station and new construction require a comprehensive temporary displacement

plan that outlines the temporary location (in coordination with Real Estate Assets Department - READ), to accommodate the existing station crew and the necessary apparatus and other equipment, to ensure that fire-rescue operations are not interrupted.

2. The temporary Fire Stations have minimum requirements:
  - a. Emergency stand-by generator; Typical size based on load calculation needs is a 12 KW with a 30 gallon tank (under 50gal=no permit required)to power the apparatus doors, kitchen, apparatus and trailer internal lighting, apparatus block heater, motorized gates and one phone/data.
3. 24' x 60' double wide trailer with 4 dorms, kitchen and 2 bathrooms and day room/living room. Only one ADA compliant bathroom is necessary. Provide electronic keypad for access to main ingress/egress (MFR: Schlage, Model: CO-100-CY-70-KP-ATH CO-Series Commercial Electronic Cylindrical Lock with Keypad and Athens Lever, or approved equivalent. All alternatives to be approved by Fire-Rescue department prior to installation).
4. Sprung Structure to accommodate one fire apparatus (same dimension as Temp 51 – 30'x45'). Sprung structure shall include receiver for apparatus door to match SDFD's current standards. Provide electronic keypad for access to man-door (MFR: Schlage, Model: CO-100-CY-70-KP-ATH CO-Series Commercial Electronic Cylindrical Lock with Keypad and Athens Lever, or approved equivalent. All alternatives to be approved by Fire-Rescue department prior to installation).

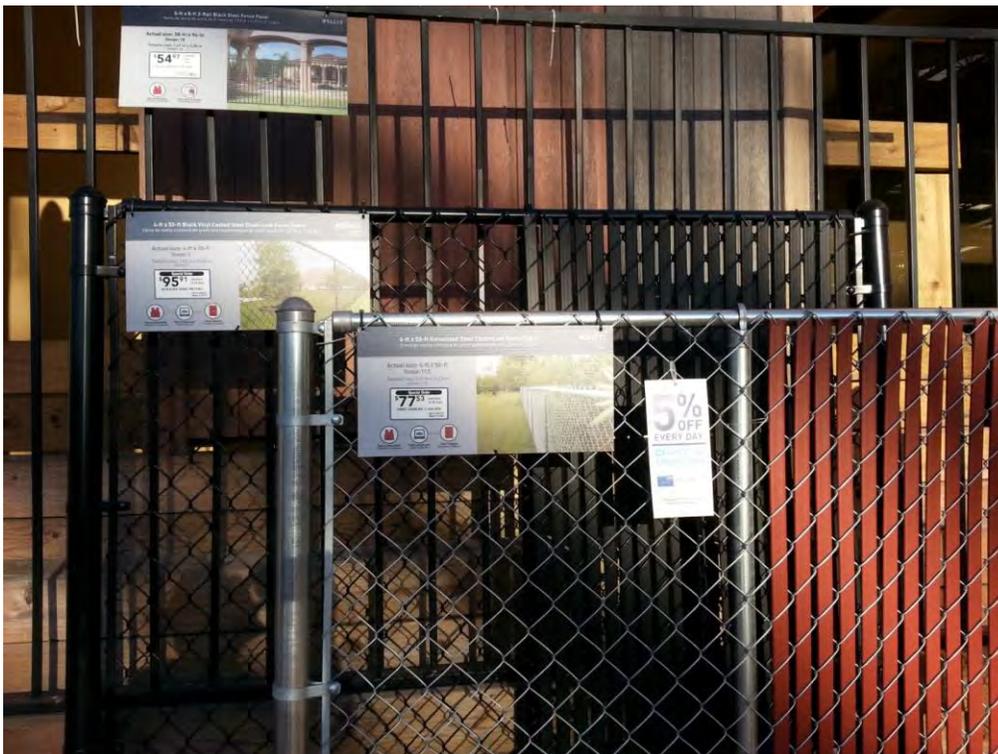


(IMAGE FOR REFERENCE – to be refined in future drafts)

5. Communication rack location to be identified and accommodated for Phone/Data, Station Alerting and other Com/IT infrastructure.
6. Hot & Cold water connection shall be provided to the temporary station's washing machine, to be located inside the Sprung Structure.
7. Exterior requirements; Safe Surrender signage, red phone, Building Signage (City of San Diego, Fire Station No. \_\_\_\_, Street Address, mailbox, at corner lot locations, signage will be placed at each side of the street for proper identification.
8. Furniture, Furnishings & Equipment (FF&E) from existing station shall be moved over to the temporary station as part of the temporary crew displacement,

all depending on the condition. Additional FF&E items shall be provided through the CIP funds, to meet SDFD operations requirements.

9. Ample notice shall be provided to all utility companies (SDG&E, AT&T, TV cable network, etc.), to meet critical scheduling deadlines.
10. A moving company will be deployed to move the old existing station's FF&E that will be scheduled for one day. A minimum of two week advance notice to SDFD-Logistics-Facilities is required for proper coordination prior to the one day scheduled move.
11. On site improvements shall provide path of travel from crew parking to the trailer to the apparatus bay, exterior lighting where applicable, crew parking, hardscape improvements, driveway to accommodate the heavy weight fire apparatus, hose bibs to be located in front of the apparatus bay and near the trailer. Final location to be approved by SDFD.
12. Provide temporary fencing to meet SDFD security policy. Options:



## S. CAMERA MONITORING SYSTEM:

The camera system shall be designed to provide high-quality, digital imagery of suspicious persons and their activities. Some cameras will start recording at a higher resolution when an alarm condition occurs.

#### **T. Furniture, Fixtures & Equipment:**

New fire station design & construction cost is approx. \$10million with \$170,000 set aside for FF&E. That equals to approx. 1.7 to 2% of the total budget which is well below industry standard; Because typically it is 12-16% of the total project cost or approx. \$9-\$12/SF. FM office will recognize that the standard industry for infrastructure cost for FF&E is always a lump sum amount.

#### **U. HAZMAT Stations (IF APPLICABLE):**

1. C-tainers, if used onsite for extra storage require power and water spigot nearby.
2. Calibration Room/Clean Room required on first floor.
3. Temporary Hazardous Waste Container shall be placed on a pad with full containment for potential leaks/spills.
4. Much of HAZMAT Equipment requires storage with Air Conditioning & Power.

#### **V. Station Alerting & Communications:**

1. Station Alerting must comply with SDFD's current standards and specifications. U.S. Digital Station Alerting Cut sheets will be provided to ensure compliance with the requirements for full installation.
2. The conduits size and location shall be identified to be used for phone/data ports, PA system, intercom and station alerting system. The current City approved vendor contract and Department of Communication require two 2" conduits with a 12"x 12" x 4" pull box set(s) on the wall with the small back entrance door. If more than one pull box is required, both will accept two, 2" conduits. The current City vendor shall identify the correct height from the finish floor and final location for the pull box. To be further coordinated with SDFD-Logistics & City IT personnel.

#### **W. Post construction documents, Deliverables:**

Contractor shall provide Fire Logistics two sets of O&M manuals as well as one digital copy, two full sets of D size construction drawing sets and project As-Built in CAD & PDF file version.



## US DIGITAL DESIGNS G2 Communications Gateway

The Phoenix G2 Communications Gateway is responsible for maintaining and operating the communication links to each Station Alerting Controller, as well as translating and delivering dispatch data during an alert. G2

Communications link types supported by the G2 Communications Gateway include:

- Internet Protocol connections.
- Data radio systems.
- Leased line modem links.
- Digital/two-tone paging systems + DTMF
- RAID 1 Mirror Storage
- Hot Standby-Redundant Fail Over
- System Control Live Switch (optional)
- Up to eight or sixteen RS232 serial ports

The Communications Gateway receives information about an alert from a dispatcher through one of two methods:

- Through an interface with an existing CAD (Computer Aided Dispatch) system.
- Directly from an interactive web-based interface.

For larger applications, or in situations where a CAD system is already in place, the G2 Communications Gateway can interface with CAD using a variety of protocols. In the event of a CAD system failure, the web-based interface remains available for manual alerting, thus providing another level of redundancy. USDD can also provide custom interface protocol development for CAD systems not yet supported by the G2 Communications Gateway.

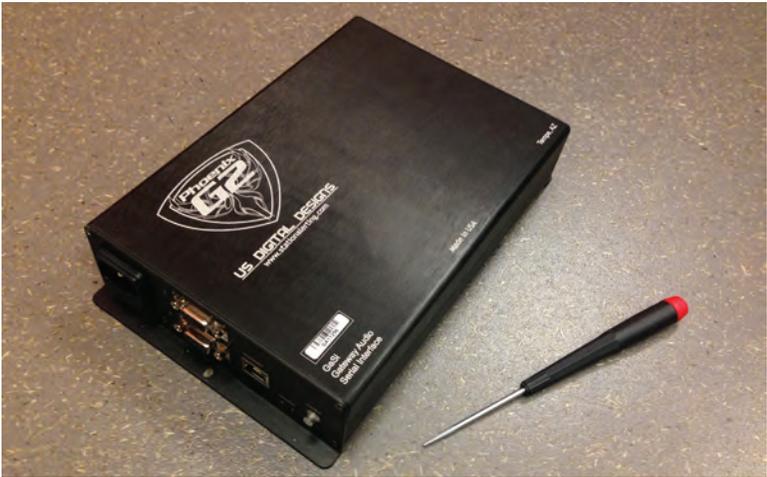


- 2 each: 19" 1U rack mount computers
- Power: 300 W Max each
- Voltage: 100-240 VAC
- Weight: 17.6 lbs
- Dimensions: 19" x 1.7" x 19.6" (WxHxL)



### G2 GaSi

The G2 GaSi provides radio system and audio control enabling fully automated VoiceAlert dispatching via voice radio. The G2 GaSi sits between the G2 Communications Gateway and your radio system. It detects channel activity, keys the radio, and prompts the G2 Gateway to play alerting tones and dispatch G2 VoiceAlert messages. The G2 GaSi controls one or two radio channels simultaneously, and can be controlled by either active G2 Gateway. The G2 GaSi also offers two integrated serial ports for serial-controllable radio consoles. The all-aluminum enclosure features laser etched labels for inputs and outputs, and flanged end plates for easy installation.



- Power: 15 W
- Voltage: 85-264 VAC/ 47-440 Hz
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Aluminum Black Anodized enclosure
- Dimensions: 6" x 2" x 9" (WxHxL)





# US DIGITAL DESIGNS

## G2 ATX Station Alerting Controller

The Phoenix G2 ATX represents the next step in the evolution of our state-of-the-art Station Alerting System. The G2 ATX has all of the major features of the standard Phoenix G2 system, in a more compact form factor. We have taken the core components, scaled them down, and repackaged them into a compact unit that can be easily wall mounted, placed on a desktop, or installed in a 19" rack.

- Touchscreen display shows system status and last dispatch (+ more)
- Zoned Alerting
- VoiceAlert – announces dispatches without dispatcher intervention ( optional )
- ( 4 ) channel x 20 watt, 70 volt audio amplifier connects to existing speakers
- Heart-saver alert tone precedes all alerts
- ( 3 ) external Audio Inputs – Dispatch Radio, Telephone Intercom, and Auxiliary
- ( 8 ) peripheral Connections for use with optional G2 Room Remotes or Message Remotes
- Support for ( 4 ) zones of Phoenix G2 Jupiter low-voltage speaker lights
- LAN Connections for Rip-and-Run network printer and Alerting interface
- Wall mount, desktop, and 19" rack install
- Simple installation – connect power, radio, ethernet, speakers
- Remote or local configuration via web browser
- Control ( 1 ) nearby BetaBrite message sign - Additional signs via G2 Message Remotes
- ( 4 ) Form "C" relay outputs and ( 3 ) Configurable dry inputs ( e.g. door bell )

- Power: 750 W
- Voltage: 47-63Hz/ 90-132 VAC/180-264 VAC (Selectable Switch)
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Aluminum Black Anodized enclosure
- Dimensions: 17.25" x 17.50"x 6.06" (WxHxL)





## *Electronic Message Display*

The new and improved BetaBrite® electronic message display gets your message across faster and better than ever before. Designed for top visibility at a 150 ft. distance, our displays are brighter and sharper than the competition.

Adaptive® manufactures, tests and services our entire product line all under one roof. That means quality, consistency and customer service you can count on.

- Advertise your specials
- Announce upcoming events
- Welcome customers & guests
- Promote safety awareness
- Recognize employees

### **Features:**

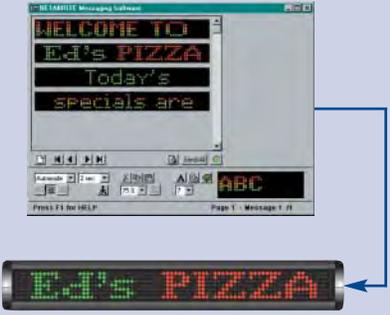
- Save and display multiple messages
- Handheld infrared keyboard
- Simple 3-step programming
- Creative messages at your fingertips
- Moving animations & fun fonts
- Powerful graphics & brilliant colors
- 8 Colors



## BetaBrite Specifications

<b>Case Dimensions:</b>	25.8"L x 2.0"D x 3.8"H	<b>Built-in Animations:</b>	Cherry-bomb exploding, don't drink and drive, fireworks, slot machine, no smoking, running animal, moving auto, welcome (in script), thank you (in script), new flash, trumpets, party balloons and fish
<b>Display Dimensions:</b>	24.0"L x 2.1"H	<b>Clock:</b>	12 or 24 hour format
<b>Display Weight:</b>	2.55 lbs. (1.16 kg.) without power supply and keyboard	<b>Serial Computer Interface:</b>	RS232
<b>Display Array:</b>	80 columns x 7 rows	<b>Power:</b>	7.5 VDC at 3.25A, 50/60 HZ
<b>Display memory:</b>	30,000 characters	<b>Maximum Power Cord Length:</b>	10 ft.
<b>Pixel Size (Diameter):</b>	0.2" (0.51 cm)	<b>Case Material:</b>	Extruded aluminum
<b>Pixel (LED) Color:</b>	8 Super-bright colors & 3 rainbow effects	<b>Limited Warranty:</b>	One-year parts and labor, factory servicing
<b>Center-to-Center Pixel Spacing (Pitch):</b>	0.3" (0.76 cm)	<b>Agency Approvals:</b>	<ul style="list-style-type: none"> <li>- 120 VAC model: Listed to ANSI/UL 60950-1 (US) and CAN/CSA C22.2 No. 60950-1-03 (Canada)</li> <li>- 230 VAC models: Complies with EN60950: 1992 (Europe) and AS/NZS 3260-1993 (Australia/New Zealand)</li> <li>- FCC Part 15 Class A</li> <li>-  and  Marked (120 VAC model)</li> <li>-  and  Marked (230 VAC model)</li> </ul>
<b>Character Size:</b>	2.1" tall	<b>Operating Temperature:</b>	32° to 120°F, (0° to 50°C)
<b>Character Array:</b>	5 x 7 matrix	<b>Humidity Range:</b>	0% to 95% non-condensing
<b>Character Sets:</b>	Block (sans serif); decorative (serif); upper/lower case; slim/wide	<b>Mounting:</b>	Hardware to accommodate wall/ceiling mounting
<b>Memory Retention:</b>	One month typical		
<b>Message Capacity:</b>	65 different messages can be stored and displayed		
<b>Message Operating Modes:</b>	26 consisting of: Automode™, Hold, Interlock, Roll (6 directions), Rotate, Sparkle-on, Twinkle Spray-on, Slide across, Switch, Wipe (6 directions), Starburst, Flash, Snow, Scroll, Condensed rotate		
<b>Keyboard:</b>	Handheld remote operated, infrared, 54 key layout		

### Also Available: Optional BetaBrite Software with 25' PC to display cable



- BetaBrite software makes it simple to program text or graphic messages.
- Change your content frequently and conveniently right from your computer.
- BetaBrite Software allows you to preview your messages before sending them to the display.



# US DIGITAL DESIGNS

## G2 Jupiter Illuminated Speakers

Phoenix G2 Illuminated Speaker system offers soft-start, ramped night lighting at the time of dispatch. The G2 LED Speakers are designed to assist firefighters out of bed, out of the room, and down the hall. The unique design incorporates a room speaker and long lasting, bright, and reliable LED lighting technology. Each speaker is fitted with 16 high-intensity red LEDs which offer exceptional luminosity without causing light blindness due to dark to bright transition.

- 8" cone speaker for excellent audio quality
- Off-white enamel over steel grill
- Architectural standard speaker
- Easy install for drop ceiling panels

Jupiter HC is based on a Bogan S86, installed in hard ceiling surface applications.

Recommended installation locations include dorm rooms, hallways, and common areas.

Each G2 LED Illuminated Speaker can be powered by the G2 ATX Station Controller or G2 Message Remote. No external power connections are required.

### Jupiter DC

- Type: 8 ohm or 70v configuration
- Power: 48 VDC, 20 mA
- 90 dBspl sensitivity
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Dimension: 9.5" Diameter



E276 R276



# US DIGITAL DESIGNS

## G2 Sign Remote

The G2 Sign Remote is a general-purpose station peripheral that can be used anywhere that a message sign is installed. The G2 Sign Remote requires one G2 POE input for power and data. The outputs are 7.5 volts for a single message sign, and data communications output featuring an RJ11 interface.



The G2 Sign Remote can be hung near the Message Sign in a hidden ceiling area, or mounted directly to the back of a Message Sign.

- Power: Uses G2 POE (No External power needed)
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Aluminum Black Anodized enclosure
- Dimensions: 1.35"x3.07"x6" (WxHxL)





## US DIGITAL DESIGNS G2 Room Remote

The Room Remote is designed for alerting individuals in dorm rooms or other small areas. Dispatch message text, unit status, volume control, and audio state may be displayed on the built-in LED display. It is enclosed in a solid aluminum extruded housing and can be surface mounted or flush-mounted in a wall using an included panel.

An extruded aluminum enclosure securely houses the electronics inside. The quality anodized finish gives the G2 Room Remote a refined industrial look. The three color LED display offers a clear and concise interface for users. Volume control allows room audio levels that are comfortable day or night. Also features solid-state buttons will never wear out!



- Power: Uses G2 POE (No External power needed)
- Current usage: 0.10/0.25 amps (avg/peak)
- 15 watt audio amplifier
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Dimensions: 13.25"x5.25"x3.32" (WxHxL)





## US DIGITAL DESIGNS G2 Message Remote

The G2 Message Remote is a general-purpose station peripheral that can be used anywhere that audio, message signs, relay outputs or auxiliary inputs are required. It provides 48 total watts of power that can be allocated to many combinations of speakers and message signs. It has two separate amplifiers that can each drive 15 watts of audio, and it can provide power to one or two Beta-Brite signs\*.

The G2 Message Remote can communicate with two ALPHA Protocol signs manufactured by Adaptive Micro Systems, including Beta-Brite model signs. The Message Remote is available by itself, or combined with a USDD sign bracket and wiring for two Beta-Brite message signs, ideal for wall-mounting in a hallway, bathrooms, offices, or other open area. It features a built-in 12" x 1.5" bright LED sign, four proximity buttons for control functions, an audio amplifier capable of driving 15 watts of speakers, three configurable relay outputs and two dry-contact inputs.

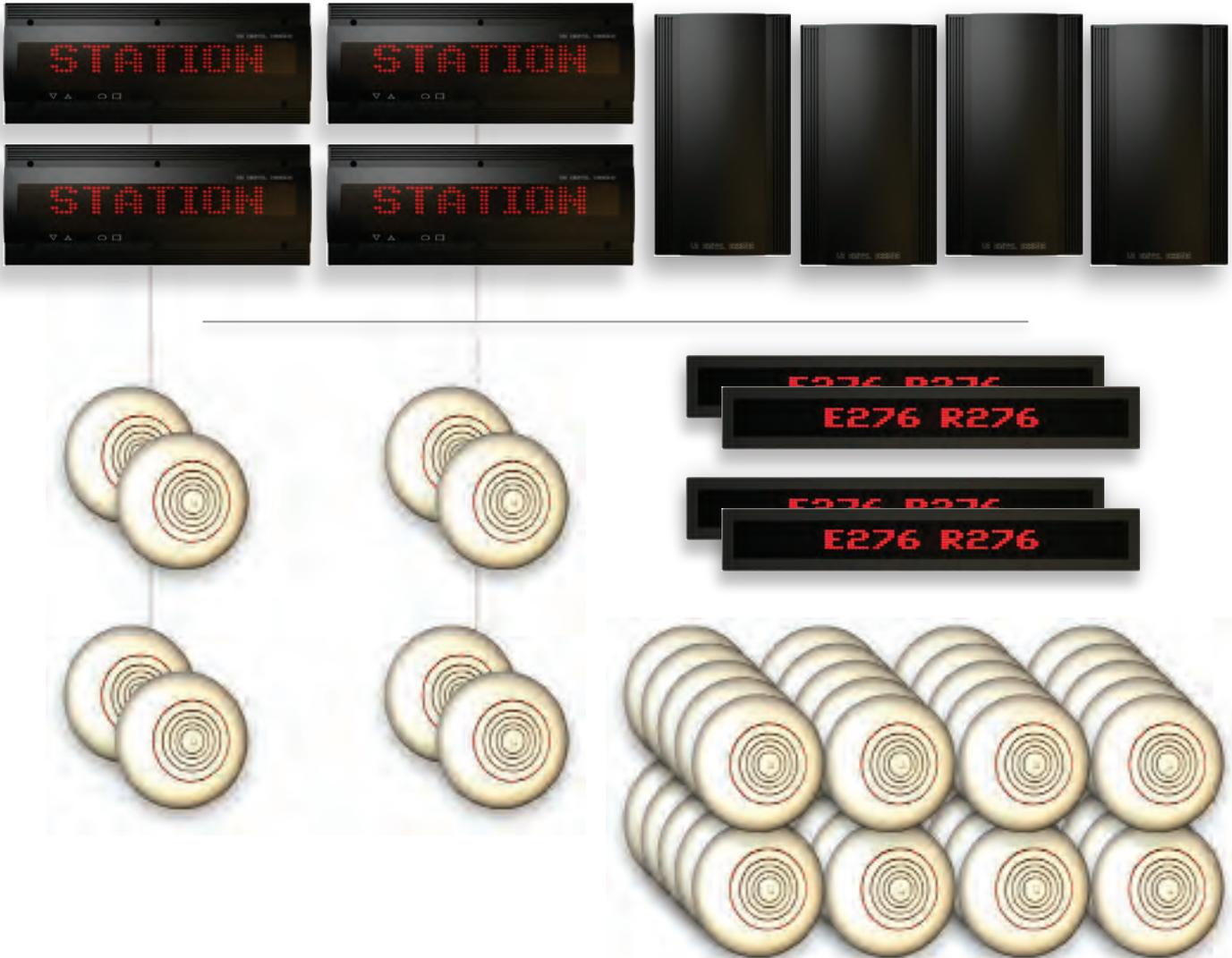
- Power: Uses G2 POE (No External power needed)
- Current usage: 0.10/0.75 amps (avg/peak)
- 2 x 15 watt audio amplifiers
- 7.5VDC regulated power supply for Beta-Brite signs
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Aluminum Black Anodized enclosure
- Dimensions: 9.25"x5.25"x3.32" (WxHxL)





# US DIGITAL DESIGNS

## Sample Peripheral Configuration

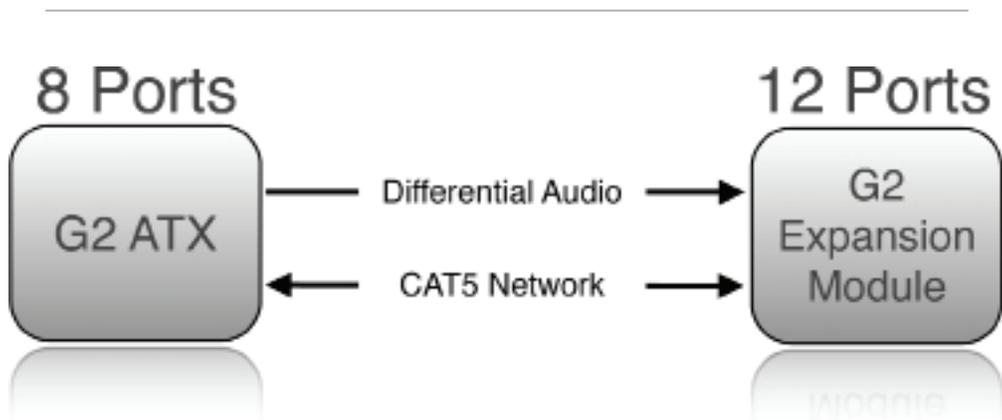




# US DIGITAL DESIGNS

## G2 ATX Port Expansion Module

The G2 Expansion Module adds (12) ports to the (8) ports already provided by the G2 ATX. This enables your stations to have more peripherals — so you can broaden the coverage of your alerting system, and create finely-tuned Zoned Alerting. Installing a G2 Expansion Module can also double the maximum allowed installation distance for G2 Peripherals to 600 feet.



- Combined with a G2 ATX provides Audio, Ethernet and Power to ( 12 ) G2 Peripherals
- Wall mount, desktop, or 19" rack install
- Simple Installation



- Power: 750 W
- Voltage: 47-63Hz/ 90-132 VAC/180-264 VAC (Selectable Switch)
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Aluminum Black Anodized enclosure
- Dimensions: 17.25" x 17.50"x 6.06" (WxHxL)



## US DIGITAL DESIGNS G2 HDTV Remote

The HDTV Remote is an alerting peripheral that can interface the G2 Station Controller with a HDTV display with an available HDMI input. The Remote can display multi-line dispatch alerting information and system status messages, and can display unit status information received from compatible CAD systems. The HDTV Remote can also use the Consumer Electronics Control (CEC) protocol to control CEC-compatible HDTV display, including power on and input select.

### Connections:

- Power Input
- Ethernet to Station Controller LAN
- HDMI Output

**NOTE:** Unlike other Phoenix G2 Peripherals the Station Controller and HDTV Remote cannot power the HDTV display using Power Over Ethernet. A separate UPS-backed circuit is required for display power.



- Power: 120 VAC Wall Power Supply
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Dimensions: 1.0625" x 2.875" x 5.125" (WxHxL)



# Expand Your Station Alerting

## US DIGITAL DESIGNS G2 I/O Remote

The G2 I/O remote provides (8) general purpose inputs and (8) general purpose outputs. The inputs and outputs (I/O) can be used for a variety of purposes.

The inputs can be used for monitoring switches, such as door bells, acknowledge buttons, door position, and more.

The outputs can be used to operate automatic doors, turn on lighting, shutoff stoves, change traffic lights, activate strobe lights, initiate Turn-out timers, lock doors, and more.

### Inputs

Inputs are optically isolated, dry contact type. They require a simple contact closure, such as a push button, to operate. Devices connected to inputs may be low voltage, low current.

### Outputs

Each of the 8 Outputs is an isolated relay. Each relay is capable of switching 110VAC / VDC at 2 amps.

Each Input and Output has its own LED to show when it is active. This makes connecting and troubleshooting easy. When an input is active or a relay is closed, the LED will illuminate.

**NOTE:** US Digital Designs does not recommend switching high voltages or currents (voltages above 48VDC or currents above 1 amp) directly with the G2 I/O Remote. If you have the need to switch higher voltages or currents we recommend that you use the G2 I/O remote to control a relay or contractor rated for the higher voltages or currents.

If you are switching inductive loads (such as higher power relays) then you must provide an inductive kickback diode across the load. If you are not familiar with how to do this, please contact US Digital Designs.

- Input: 12v DC @ 1 mA flow when closed
- Power: Uses G2 POE (No External power needed)
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Aluminum Black Anodized enclosure
- Dimensions: 6" x 5.5" x 2" (WxHxL)





# US DIGITAL DESIGNS

## G2 Strobe

The G2 Strobe is an all purpose, high intensity LED blinking strobe that may be activated at the time of an alert. It is ideal for visual indication of an alert in areas with high noise levels.

- Indoor/outdoor use
- 50 flashes per minute

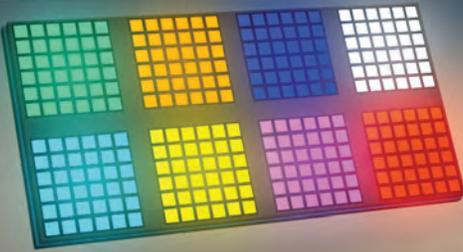
Lights flash 180 degrees in a series of four per cycle to simulate a quad-flash strobe but with the benefit of a 100,000-hour life. Each unit has 21 LEDs, three of which burn steadily for maintaining visual contact even during the off period of the flash. Lights have a black powder-coated aluminum mounting bracket, a polycarbonate lens, and three 8" wire leads.

**Surface-mount** lights have four 9/32" dia. mounting holes. Screws not included.

	Height	Width	Depth	Voltage	Amps	Available Colors
<b>Round</b>						
Surface Mount	6"	8"	2"	48V DC	0.1	Red



- Power: 48 VDC, 100 mA
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Aluminum Black Anodized enclosure
- Dimensions: 2" x 6" x 7.93" (WxHxL)



# US DIGITAL DESIGNS

## G2 Color Indicator Remote

The G2 Color Indicator Remote offers an additional method of alerting, featuring an array of high-intensity, color LEDs. The color indication is instantly recognizable by station personnel, providing immediate dispatch information to the observer. The G2 Color Indicator Remote joins the family of easy to install, single-wire, power-over-ethernet (POE) G2 peripheral devices.

- Device features RGB LEDs which can produce easily recognizable colors
- Powered by a single CAT5/6 cable providing easy install
- Easy surface mount utilizing common construction components
- G2 Color Indicator Remote LEDs easily visible in sunlit rooms, 10,000+ hours of LED life
- Fully Programmable providing use for many functions
- Up to (3) G2 Color Indicator Remotes may be linked to a single POE port



- Power: Uses G2 POE (No External power needed)
- 1 Year Parts & Labor Warranty
- Service Contract Available
- Dimensions: 7.5" x 3.75" x 1.5" (WxHxL)

### CP1500AVRLCD

The CP1500AVRLCD UPS system offers full-time surge protection and battery backup.



#### KEY FEATURES:

- 1500VA / 900W Simulated sine wave
- Line-Interactive Topology
- AVR & GreenPower UPS™
- Multi-function LCD display
- Tower Form Factor
- RJ11/RJ45 & Coax RG6 Protection
- 8 Outlets / USB & Serial ports
- EMI/RFI filters
- PowerPanel® Personal Edition

#### Runtimes:

**3 Minutes at Full-load**  
**11 Minutes at Half-load**

#### DESIGNED FOR:

- Home Office/Small Office Networks & Equipment
- Workstations/PCs
- Internetworking Hardware
- Home Theater System Equipment
- Surveillance & Security Systems
- Personal Electronics
- POS Systems



CyberPower's patented GreenPower UPS™ technology reduces UPS energy costs up to 75%! Save money and help reduce carbon emissions.

**CyberPower Systems, Inc.**  
 4241 12th Ave. E. Suite 400  
 Shakopee, MN 55379  
 Toll-free 877.297.6937  
 CPSwww.com

The CyberPower Intelligent LCD CP1500AVRLCD uninterruptible power supply (UPS) for mid to high-end computer systems, features dynamic line conditioning to guard against surges/spikes and offers battery backup in the event of brownouts or blackouts. Its patented GreenPower UPS™ advanced circuitry reduces UPS energy costs by up to 75% compared to competitive models.

The CP1500AVRLCD unit has a capacity of 1500VA/900 Watts, eight (8) NEMA 5-15R receptacles, including four (4) fail-safe outlets for critical loads. The intelligent multi-function LCD panel displays real-time UPS vitals for ease of control. This unit offers connectivity via one (1) HID USB and one (1) serial port, as well as protection for phone/network (RJ11/RJ45) and cable/coax (RG-6). It has two (2) maintenance-free, user-replaceable 12V/8.5Ah batteries and includes EMI/RFI filters to increase the immunity of the load to disturbances and surges. PowerPanel® Personal Edition UPS Management software automatically closes computer files and safely shuts down the system in case of a power outage.

#### FEATURES & BENEFITS:

**Intelligent LCD Diagnostic Display:** The innovative front panel displays 11 different UPS vitals: input voltage level, output voltage level, automatic voltage regulator, battery capacity, runtime estimate, load level, output frequency, on battery, overload, fault condition, and silent mode.

**Automatic Voltage Regulation:** AVR technology stabilizes the AC voltage and maintains a safe voltage level without switching to battery-mode. This conserves battery life, and delivers cleaner AC power to connected equipment.

**Ultra-Quiet UPS:** Advanced efficiency design (reduced fan operation), high-end system components, and GreenPower UPS technology help minimize sound emissions.

**Transformer-Spaced Outlets:** Widely-spaced outlets accommodate large transformer-based plugs without compromising the utility of other outlets.

**USB Connectivity:** HID compliant USB port enables full integration with built-in power management and auto shut-down features of Windows, Linux and Mac OS X.

**EMI/RFI Filters:** Filters against electromagnetic interference and radio frequency interference ensuring clean power for connected equipment.

**Audible Alarms:** Distinctive tones identify when the unit is running on battery power, if it is overloaded or when the battery is low.

**Resettable Circuit Breaker:** Convenient unit reset switch in case of an overload.

**Energy-Saving Technology:** Patented GreenPower UPS™ advanced circuitry reduces UPS energy costs by up to 75% compared to competitive models.

**PowerPanel® Personal Edition:** In event of a power outage, PowerPanel PE saves open files and “hibernates” the PC to increase the run-time on the UPS unit. PowerPanel is easily installed on any Windows-based PC and uses minimal system resources. Diagnostic screens display the status of the UPS, including silent operation mode, configurable system notifications, automatic self tests, adjustable high/low voltage warnings, event/data logging, and scheduled shutdowns.

**Technical Support:** CyberPower assists users with any product, installation, or warranty concerns—free of charge.

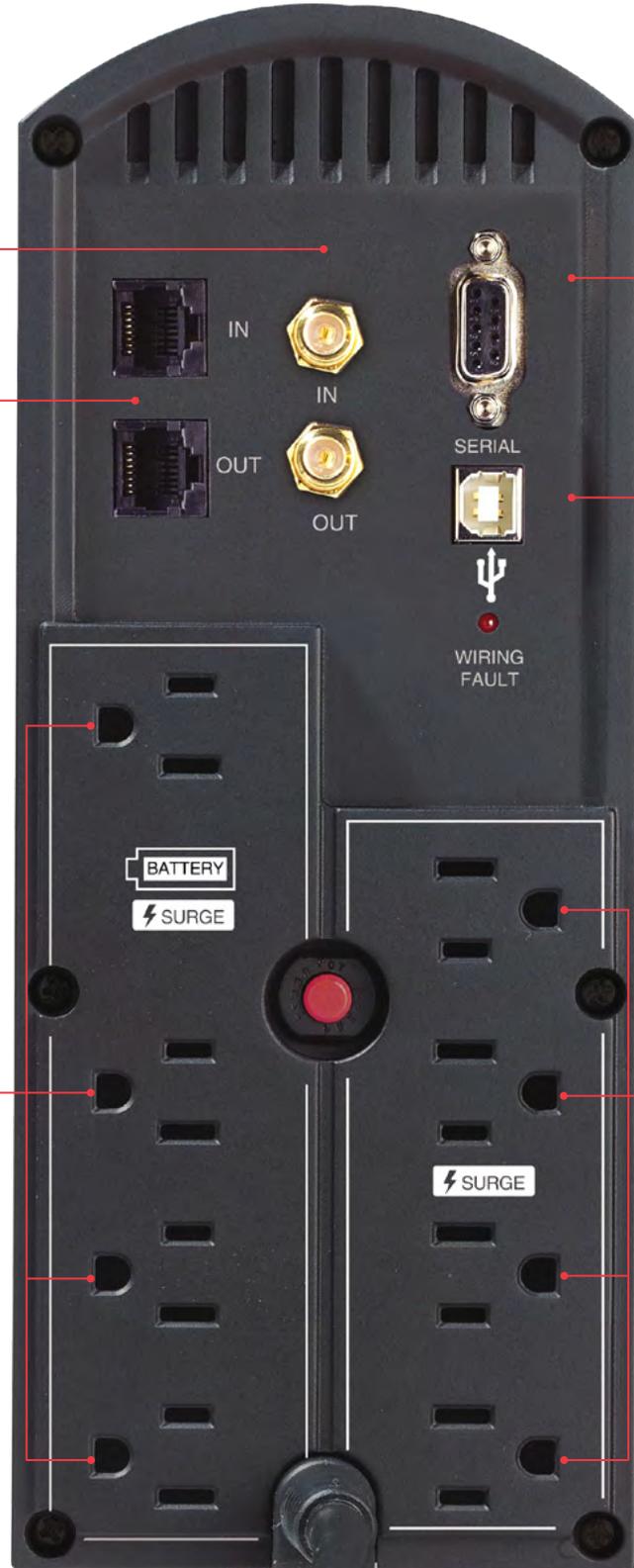
**3-Year Warranty:** Stringent manufacturing processes and innovative product design enables CyberPower to offer one of the strongest warranties in our industry. CyberPower will repair or replace damaged units within three (3) years of purchase date.

**ISO & Safety Certifications:** All CyberPower manufacturing facilities are state-of-the-art and ISO-9001 Quality Tested. Our products are certified by the FCC, cUL, and UL.

**Windows Compatibility:** Our PowerPanel® power management software has been fully tested and is compatible with Windows 2000, 2003, XP 32/64, Vista 32/64, 7, and Server 2008.

### CP1500AVRLCD SPECIFICATIONS

GENERAL	
UPS Topology	Line-Interactive (AVR)
Energy Saving	GreenPower UPS™ Bypass Technology
INPUT	
Voltage	90Vac - 140Vac
Frequency	60Hz +/- 3Hz
Plug Type	NEMA 5-15P
Plug Style	Right angle
Cord Length	6'
OUTPUT	
VA	1500
Watts	900
On Battery Voltage	120Vac +/- 5%
On Battery Frequency	60Hz
On Battery Waveform	Simulated Sine Wave
Outlet Type	NEMA 5-15R
Outlets - Total	8
Outlets - Battery & Surge Protected	4
Outlets - Surge-Only Protected	4
BATTERY	
Runtime at Half Load (min.)	11
Runtime at Full Load (min.)	3
Battery Type	Sealed lead acid
Battery Size	12V/8.5AH
User Replaceable	Yes
Typical Recharge Time	16 Hours
Replacement Battery	BB Battery - HR1234W
Battery Quantity	2
SURGE PROTECTION & FILTERING	
Surge Suppression	1,500 Joules
Phone / Ethernet RJ11 / RJ45	1-In, 1-Out (Combo)
Coax Protection RG6	1-In, 1-Out
EMI/RFI Filtration	Yes
MANAGEMENT & COMMUNICATIONS	
Multifunction LCD Display	Yes
HID Compliant USB Port	Yes
Serial Port	Yes
LED Indicators	Power on, wiring fault
Audible Alarms	On battery, low battery, overload
Software	PowerPanel® Personal Edition
PHYSICAL	
Dimensions (WxHxD)	4" x 9.75" x 13.25"
Weight (lbs.)	25
CERTIFICATIONS	
Certifications	UL1778, cUL, FCC DOC Class B
RoHS Compliant	Yes
WARRANTY	
Product Warranty	3 Years Limited
Connected Equipment Guarantee	Lifetime



Surge Protected Coaxial Connectors

Phone/Fax/Modem (RJ11/RJ45) Surge Protected Ports

Serial Communication Port to PC

USB Communication Port to PC

4 Full Time Battery & Surge Protected Outlets (1 Transformer Spaced Outlet)

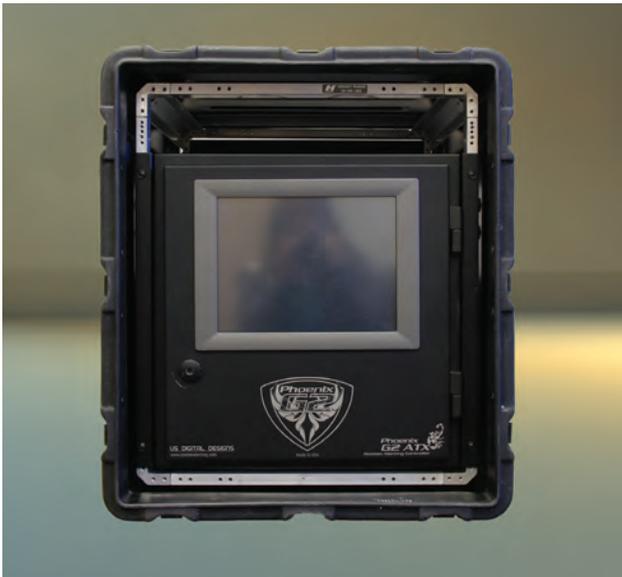
4 Full Time Surge Protected Outlets

CyberPower Systems, Inc. designs and manufactures state-of-the-art power protection and distribution equipment for corporate, business, home, government and educational markets. CyberPower leads the industry by surpassing customer expectations in the development, design, construction, durability and functionality of uninterruptible power supply (UPS) products for computers, peripherals and connected devices. CyberPower Systems operates in the Asian Pacific, North American, and European markets. For additional information, including sales office locations and authorized reseller partners, visit [CPSwww.com](http://CPSwww.com).



# US DIGITAL DESIGNS

## G2 Portable ATX



The US Digital Designs Portable Station Controller includes an ATX Station Controller, AC UPS, 12 Volt Radio Power Supply and Radio Mounting Panel in a ruggedized transport case with internal vibration-isolated rack frame.

Additional optional devices such as Speaker Lights, Message Displays and Controllers and other Peripherals can be added to the transportable unit by the County during the system detailed design process.



- Dimensions: 22" x 24" x 31" (WxHxL)
- Weight: 94 lbs

**APPENDIX H**

**LONG-TERM REVEGETATION MAINTENANCE AND MONITORING AGREEMENT**

## LONG-TERM REVEGETATION MAINTENANCE AND MONITORING AGREEMENT

This **25-Month Long-Term Revegetation Maintenance and Monitoring Agreement (LTRMMA)** is made and entered into by and between the City of San Diego (City), a municipal corporation, and **INSERT NAME OF CONTRACTOR - TO BE IDENTIFIED AFTER AWARD** (Contractor), who may be individually or collectively referred to herein as a "Party" or the "Parties."

### RECITALS

- A.** Concurrent with execution of this LTRMMA, the Parties entered into a general contract (Construction Contract) for the construction of **North University City Fire Station 50 Design-Build, S-13021, Bid No. K-18-1459-DB2-3**
- B.** In accordance with the Construction Contract, the Contractor shall enter into this LTRMMA with the City for the purpose of implementing and fulfilling long-term maintenance requirements in accordance with the City of San Diego Municipal Code and the Contract Documents for the specified elopement(s) of **North University City Fire Station 50** (Maintenance Requirements). The performance of the terms of this LTRMMA shall commence immediately upon completion of performance of the Construction Contract.
- C.** The Contractor is ready and willing to fulfill its maintenance requirements in accordance with the terms of this LTRMMA.

NOW, THEREFORE, in consideration of the above recitals and the mutual covenants and conditions set forth herein, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby set forth their mutual covenants and understandings as follows:

### INTRODUCTORY PROVISIONS

- A. Recitals Incorporated.** The above referenced Recitals are true and correct and are incorporated into this LTRMMA by this reference.
- B. Exhibits Incorporated.** All Exhibits and Attachments referenced in this LTRMMA are incorporated into this LTRMMA by this reference.
- C. Contract Term.** This LTRMMA shall be effective upon completion of the Plant Establishment Period (PEP) as described in **Section 6-1.1** of (RFP) Attachment E and **Section 802** of the Construction Contract and it shall be effective until the completion of the Work as described below.
- D. Terms and Conditions.** This LTRMMA is subject to the terms and conditions of the Construction Contract included in The GREENBOOK and The WHITEBOOK (**Part 1, Part 8, and Part 10**) except as otherwise stated in this LTRMMA.

**E. Partial Release of Payment Bond and Performance Bond.**

- 1. Performance of Contract in Two Phases.** There are two separate phases of Work to be performed by the Contractor under this Contract. The first phase covers the Work involved in the original agreement as described in this agreement (“Phase – 1 Work, Main Construction Contract”). The second phase covers the work involved in the long-term maintenance of the plants contained within the Revegetation and Restoration Area see (RFP) **Exhibit F**, Restoration & Revegetation Plan after Phase 1 Work has been completed (“Phase 2 Work”).
- 2. Bond Handling for Contract Phases.** The Payment Bond and the Performance Bond covering Phase 1 Work on this Contract shall remain in full force and effort until completion of that phase is certified. The original Payment Bond and the original Performance Bond covering Phase 1 Work on this Contract shall continue in full force and effort for Phase 2 Work, however the value of each bond may be reduced as follows:

  - 2.1** Completion by the Contractor of all Phase 1 Work shall be evidenced solely by the City Engineer affirming in writing that to the best of their knowledge that all Phase 1 Work has been completed by the Contractor in strict conformity with all City-approved plans and revisions, and that the Phase 1 Work completed by the Contractor meets all applicable standards (“Notice of Completion”).
  - 2.2** Upon issuance by the City Engineer of the Notice of Completion for Phase 1 Work, the Payment Bond for this Project, and the Performance Bond for this Project, may be partially released, and thereby reduced for the Work performed under Phase 1. The remaining payment and performance bond will cover the full cost of Phase 2 Work on this Project, which will be the amount specified in Section 4.1 of this LTRMMA.
- 3. No Partial Release Upon Default.** No Partial Performance Bond Release and Reduction shall be given to the Contractor if the Performance Bond and/or this Agreement is in default on Phase 1 Work.

## SECTION 1 - MAINTENANCE CONTRACT SUMMARY

- 1.1. General.** The Contractor shall fulfill the Project's Maintenance Requirements (Work) as identified in the scope of work attached as **Exhibit A** (of Phase 2 Work) in a manner satisfactory to the City.

The Contractor shall provide all equipment, labor, and materials necessary to perform the **Work** as described in **Exhibit A** (of Phase 2 Work), at the direction of the City.

- 1.2. Work Schedule.** After receiving notification from the City, the Contractor shall create a comprehensive Schedule of Work (Schedule) for performance of this LTRMMA for the City's approval. The Schedule shall include routine work, inspection, and infrequent operations such as repairs, fertilization, aerification, watering, and pruning, and other details outlined in (RFP) **Exhibit F**, Restoration & Revegetation Plan..

The City will approve the Schedule prior to the commencement of the Work. The City may require the Contractor to revise the Schedule. The Contractor shall not revise the Schedule unless the revisions have received the prior written approval of the City.

- 1.3. Commencement of Work & Maintenance Period.** This LTRMMA shall commence when the City approves of the Work of the Plant Establishment Period and sends notice of the approval to the Contractor in accordance with **Part 8, Section 802** of the Construction Contract and shall continue for **25** months.

- 1.4. Performance of Work.** The Work shall be performed in accordance with the manufacturer's **recommendations** for each piece of equipment used in performance by the Contractor of this LTRMMA.

- 1.5. License.** The Contractor shall hold the following licenses in good standing:

- 1.5.1. C-27 State Contractor's License.**

**1.5.1.1.** Alternatively, the Contractor shall retain the services of a Subcontractor with a **C-27** State Contractor's License.

- 1.5.2. Pest Control Advisor's License.**

**1.5.2.1.** Alternatively, the Contractor shall retain the services of a licensed Pest Control Advisor.

- 1.5.3. Registration with the County Agriculture Commission.**

- 1.5.4. Qualified Applicator's Certificate for Category B.** This shall apply to any person supervising the use of pesticides, herbicides, or rodenticides.

- 1.5.5. City of San Diego Business License.**

Prior to performing the Work, the Contractor shall complete and submit to the City the License Data Sheet. **See Exhibit C.**

- 1.6. Hours of Performance.** The Contractor shall perform the Work between the hours of 7:00 a.m. and 3:30 p.m., Monday through Friday (Working Hours). The City may, in its sole discretion, grant permission to the Contractor to perform Work during non-Working Hours. Maintenance functions that generate excess noise (operations of power equipment which would cause annoyance to area residents for example) shall not begin before 7:00 a.m.

## SECTION 2 - ADMINISTRATION

- 2.1. Contract Administrator.** **PUBLIC WORKS CONTRACTING (PWC)** is the Contract Administrator for the LTRMMA. The Contractor shall perform the Work under the direction of a designated representative of the Public Works Department. The City will communicate with the Contractor on all matters related to the administration of this LTRMMA and the Contractor's performance of the Work rendered hereunder. When this LTRMMA refers to communications to or with the City, those communications shall be with the City, unless the City or this LTRMMA specifies otherwise. Further, when this LTRMMA requires an act or approval by City, that act or approval will be performed by the City.
- 2.2. Local Office.** The Contractor shall maintain a local office with a company representative who is authorized to discuss matters pertaining to this LTRMMA with the City and shall promptly respond and be available during Normal Working Hours. A local office is one located in San Diego County that can be reached by telephone and facsimile. An answering service in conjunction with a company email address for the designated company representative may fulfill this requirement. A mobile telephone shall not fulfill the requirement for a local office. All calls to the Contractor from the City shall be returned within a 1-hour period.
- 2.3. Emergency Calls.** The Contractor shall have the capability to receive and to respond immediately to calls of an emergency nature. The City shall refer emergency calls to the Contractor for immediate disposition. The Contractor shall provide the City with a 24 hour emergency telephone number for this purpose.
- 2.4. Staffing.** The Contractor shall furnish supervisory and working personnel capable of promptly accomplishing all Work required under this LTRMMA on schedule and to the satisfaction of the City.
- 2.5. Contractor Inspections.** The Contractor shall perform inspections of the Work site and shall prepare and submit to the City a Punchlist and dates of correction. The Punchlist shall include a comprehensive report of Work performed at the Work site to ensure 100% cover.

## SETION 3: WORK SITE MAINTENANCE

- 3.1. Use of Chemicals.** The Contractor shall submit to the City for approval sample labels and MSDS for all chemical herbicides, rodenticides, and pesticides proposed for use under this LTRMC. Materials included shall be limited to chemicals approved by the State of California Department of Agriculture.

The use of any chemical shall be based on the recommendations of a licensed pest control advisor. Annual PCA Pesticide Recommendations are required for each pesticide proposed to be used for the Work site covered by this LTRMC. The use of chemicals shall conform to the current San Diego County Department of Agriculture regulations.

No chemical herbicide, rodenticide, or pesticide shall be applied until its use is approved, in writing, by City as appropriate for the purpose and area proposed.

The Contractor shall submit a monthly pesticide use report to the City along with the Contractor's invoices for payment. This report shall include a statement of all applications of herbicides, rodenticides, and pesticides, detailing the chemical used, undiluted quantity, rate of application, applicator's name, and the date and purpose of the application. For months in which no pesticides are applied, state "No Pesticide Used" on the report.

- 3.2. Irrigation Water.** The Contractor shall diligently practice water conservation, including minimizing run-off or other waste. The Contractor shall turn off irrigation systems, if any, during periods of rainfall and at such other times when suspension of irrigation is desirable to conserve water and to remain within the guidelines of good horticultural landscape maintenance practices in accordance with the instructions from the Project Biologist. The Contractor's failure to properly manage and conserve water may result in deductions from the monthly payment to be made to the Contractor or other penalties under this LTRMMA.

If the Contractor causes excessive use or waste of irrigation water, the estimated cost of that water shall be deducted from the monthly payment. Further, any monetary fines or other damages assessed to City for the Contractor's failure to follow water conservation regulations imposed by the City, the Public Utilities Department of the City of San Diego, and, where appropriate, the State of California, the County Water Authority, or other legal entities shall be solely the responsibility of the Contractor and may be deducted from the monthly payment to be made to the Contractor under this LTRMMA.

- 3.3. Payment for Water.** The Contractor shall pay for the water used in the maintenance of the Work site and this cost is included in the price of this LTRMMA.
- 3.4. Satisfactory Progression.** If the Revegetation Area is not progressing towards the required 100% Cover, as defined in the Scope of Work, in accordance with the Work Schedule, and as determined by City, the City may adjust monthly payments to Contractor accordingly.

#### SECTION 4: COMPENSATION

- 4.1. Maximum Compensation.** The compensation for this LTRMMA shall not exceed **\$CONTRACTOR'S LUMP SUM BID AMOUNT FOR THIS LONG-TERM REVEGETATION MAINTENANCE AND MONITORING AGREEMENT - TO BE ESTABLISHED DURING THE AWARD PROCESS. SEE EXHIBIT A.** (Contract Price).
- 4.2. Prevailing Wage Requirements.** The Prevailing Wages requirements in accordance with **Attachment D** of this Construction Contract are hereby incorporated by this reference.
- 4.3. Method of Payment and Reports.** The payments will be made monthly in direct proportion that each month bears to the total value of the Contract Price. As conditions precedent to payment, the Contractor shall submit a detailed invoice and report of maintenance Work performed every month. The Contractor's failure to submit the

required reports or certified payrolls as described in the Construction Contract shall constitute a basis for withholding payment by the City.

**4.4. Final Payment.** The Contractor shall not receive final payment until the following conditions have been completed to the City's satisfaction:

**4.4.1** The item(s) of the Work subject to this maintenance coverage as specified in **Exhibit A** (of Phase 2 Work) (Maintenance Items) have been determined to be in compliance with the Construction Contract and this LTRMMA.

**4.4.2** The Contractor has provided to the City a signed and notarized Affidavit of Disposal, a copy of which is attached to the Construction Contract, stating that all brush, trash, debris, and surplus materials resulting from the Work have been disposed of in a legal manner.

**4.4.3** The Contractor has provided a final work summary report to the City.

**4.4.4** The Contractor has performed comprehensive and successful testing and checks of the Maintenance Items.

## **SECTION 5: BONDS AND INSURANCE**

**5.1. Contract Bonds.** Prior to the commencement of Work, the Contractor, at its sole cost and expense, shall provide the following bonds issued by a surety authorized to issue bonds in California satisfactory to the City:

**5.1.1.** A Payment Bond (Material and Labor Bond) in an amount not less than the Contract Price for this Bid item, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The Payment Bond shall be maintained by the Contractor in full force and effect until the Work is accepted by City and until all claims for materials and labor are paid, and shall otherwise comply with the California Civil Code.

**5.1.2.** A Performance Bond in an amount not less than the Contract Price for this bid item to guarantee the faithful performance of all Work within the time prescribed in a manner satisfactory to the City and to guarantee all materials and workmanship will be free from original or developed defects. The Performance Bond shall remain in full force and effect until performance of the Work is completed as set forth in this LTRMMA.

**5.2. Insurance.** The Contractor shall maintain insurance coverage as specified in Section 7-3, "INSURANCE" of the Construction Contract at all times during the term of this LTRMMA.

The Contractor shall not begin the Work under this LTRMMA until they have complied with the following:

**5.2.1.** Obtain insurance certificates reflecting evidence of insurance:

1. Commercial General Liability
2. Commercial Automobile Liability
3. Worker's Compensation

**5.2.2.** Confirm that all policies contain the specific provisions required in Section 7-3, "INSURANCE."

The Contractor shall submit copies of any policy upon request by the City.

The Contractor shall not modify any policy or endorsement thereto which increases the City's exposure to loss for the duration of this LTRMMA.

## **SECTION 6: MISCELLANEOUS**

**6.1. Illness and Injury Prevention Program.** The Contractor shall comply with all the mandates of Senate Bill 198 and shall specifically have a written Injury Prevention Program on file with the City in accordance with all applicable standards, orders, or requirements of California Labor Code, Section 6401.7. This Program shall be on file prior to the performance of any Work.

**6.2. City Standard Provisions.** This LTRMMA is subject to the following standard provisions:

**6.2.1.** WHITEBOOK, Section 7-13.3, Drug-Free Workplace (As adopted pursuant to City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace).

**6.2.2.** WHITEBOOK, Section 7-13.2, Americans with Disabilities (As adopted pursuant to City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act).

**6.2.3.** WHITEBOOK, Section 7-13.4, Contractor Standards and Pledge of Compliance (As adopted pursuant to City of San Diego Municipal Code §22.3224 as amended 11/24/08 by ordinance O-19808 for Pledge of Compliance).

**6.2.4.** WHITEBOOK, Section 7-13.6.1, Notice of Labor Compliance Program Approval (As adopted pursuant to the City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776 (Stats. 1978, Ch. 1249)).

**6.2.5.** WHITEBOOK, Section, 7-13.7, Apprentices on Public Works (As adopted pursuant to Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts).

**6.2.6.** WHITEBOOK, Section 7-13.5, Equal Benefits (As adopted pursuant to the City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code).

**6.2.7.** WHITEBOOK, Section 2-17, Information Security Policy (As adopted pursuant to the City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63).

- 6.3. Taxpayer Identification Number.** I.R.S. regulations require the City to have the correct name, address, and Taxpayer Identification Number (TIN) or Social Security Number (SSN) on file for businesses or persons who provide services or products to the City. This information is necessary to complete Form 1099 at the end of each tax year. As such, the Contractor shall provide the City with a Form W-9 upon execution of this LTRMMA.
- 6.4. Assignment.** The Contractor shall not assign the obligations under this LTRMMA, whether by express assignment or by sale of the company, nor any monies due or to become due, without the City's prior written approval. Any assignment in violation of this section shall constitute a Default and is grounds for immediate termination of this LTRMMA, at the sole discretion of City. In no event shall any putative assignment create a contractual relationship between the City and any putative assignee.
- 6.5. Independent Contractors.** The Contractor and any Subcontractors employed by Contractor shall be independent contractors and not agents of the City. Any provisions of this LTRMMA that may appear to give the City any right to direct the Contractor concerning the details of performing the Work, or to exercise any control over such performance, shall mean only that the Contractor shall follow the direction of the City concerning the end results of the performance.
- 6.6. Covenants and Conditions.** All provisions of this LTRMMA expressed as either covenants or conditions on the part of the City or the Contractor shall be deemed to be both covenants and conditions.
- 6.7. Jurisdiction and Venue.** The jurisdiction and venue for any suit or proceeding arising out of or concerning this LTRMMA, the interpretation or application of any of its terms, or any related disputes shall be the County of San Diego, State of California.
- 6.8. Successors in Interest.** This LTRMMA and all rights and obligations created by it shall be in force and effect whether or not any Parties to this LTRMMA have been succeeded by another entity and all rights and obligations created by this LTRMMA shall be vested and binding on any Party's successor in interest.
- 6.9. Integration.** This LTRMMA and the exhibits, attachments, and references incorporated into this LTRMMA fully express all understandings of the Parties concerning the matters covered in this LTRMMA. No change, alteration, or modification of the terms or conditions of this LTRMMA, and no verbal understanding of the Parties, their officers, agents, or employees shall be valid unless made in the form of a written change agreed to in writing by both Parties or by an amendment to this LTRMMA agreed to by both Parties. All prior negotiations and agreements shall be merged into this LTRMMA.
- 6.10. Counterparts.** This LTRMMA may be executed in counterparts, which when taken together shall constitute a single signed original as though all Parties had executed the same page.
- 6.11. No Waiver.** Any failure of either the City or the Contractor to insist upon the strict performance by the other of any covenant, term, or condition of this LTRMMA, nor any failure to exercise any right or remedy consequent upon a breach of any covenant, term,

or condition of this LTRMMA, shall constitute a waiver of any such breach or of such covenant, term, or condition. No waiver of any breach shall affect or alter this LTRMMA, and each and every covenant, condition, and term hereof shall continue in full force and effect to any existing or subsequent breach.

**6.12. Severability.** The unenforceability, invalidity, or illegality of any provision of this LTRMMA shall not render any other provision of this LTRMMA unenforceable, invalid, or illegal.

**AT LEAST 1 PARAGRAPH OF THIS LTRMMA MUST BE ON SAME PAGE SIGNATURES.**

**6.13. Signing Authority.** The representative for each Party signing on behalf of a corporation, partnership, joint venture or governmental entity hereby declares that authority has been obtained to sign on behalf of the corporation, partnership, joint venture, or entity and agrees to hold the other Party or Parties hereto harmless if it is later determined that such authority does not exist.

IN WITNESS WHEREOF, this Contract is executed by the City of San Diego, acting by and through its Public Works Department Director in accordance with Resolution No. R-**INSERT NUMBER OF RESOLUTION AUTHORIZING ADVERTISING AND AWARD OF THE UNDERLYING CONSTRUCTION CONTRACT**, and by Contractor.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, **INSERT YEAR.**

THE CITY OF SAN DIEGO

By: \_\_\_\_\_  
Mayor or designee

I HEREBY CERTIFY I can legally bind **NAME OF CONTRACTOR TO BE DETERMINED DURING AWARD PROCESS** and that I have read this entire contract, this \_\_\_\_\_ day of \_\_\_\_\_, **INSERT YEAR.**

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

I HEREBY APPROVE the form of the foregoing Contract this

\_\_\_\_\_ day \_\_\_\_\_ of **INSERT YEAR.**

Mara W. Elliott, City Attorney

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Deputy City Attorney

## EXHIBIT A

### SCOPE OF WORK

- I. **Location of Work.** The location of the Work to be performed (Revegetation Area) is shown on Exhibit F of the RFP and the Bridging Documents, Sheet 33-D which are incorporated into this Contract by this reference as though fully set forth herein.
- II. **Description of Work.** The Contractor shall maintain and monitor the Revegetation Area during the Monitoring Program in accordance with this Contract and the Specifications such that the Revegetation Area meets the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule. The Work includes complete landscape maintenance consisting of irrigation, pruning, shaping and training of trees, shrubs, and ground cover plants; fertilization; weed control; control of all plant diseases and pests; and trash removal, and all other maintenance listed in this Contract and as required to maintain the Revegetation Area in a useable condition and to maintain the plant material in a healthy and viable state.

The Work also includes biological monitoring of the Revegetation Area according to the schedule and methods specified in the Revegetation Plan. The monitoring work shall include all reporting tasks specified in the Revegetation plan.
- III. **Method of Performing Work.**
  - A. **Irrigation.** Irrigation shall be applied to container and salvaged plants in accordance with instructions from the Project Biologist. Irrigation delivery techniques and schedules will vary depending on the availability of a sprinkler irrigation system and weather patterns. Failure of an existing irrigation system to provide full and proper irrigation shall not relieve Contractor of the responsibility to provide adequate irrigation with full and proper coverage of all areas subject to this LTRMMA.
    1. In areas where an automatic sprinkler system is installed, Contractor shall periodically inspect the operation of the system for any malfunction. The maximum interval between inspections shall not exceed 7 Days. The Contractor shall maintain all sprinkler systems in such a way as to guarantee proper coverage and full working capability, and shall make whatever adjustments may be necessary to prevent excessive run-off into streets, rights-of-way, or other areas not meant to be irrigated. The cost of wasted water may be charged to Contractor.
    2. All areas not adequately covered by a sprinkler system shall be irrigated by a portable irrigation method in accordance with instructions from the Project Biologist. The Contractor shall furnish all hoses, nozzles, sprinklers, etc. necessary to accomplish this supplementary irrigation. The Contractor shall exercise due diligence to prevent water waste, erosion, and detrimental seepage into existing underground improvements and to existing structures.

3. Irrigation shall be accomplished as follows:
  - a) Turf (if any) shall be irrigated Monday through Friday, as required, to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Additional irrigation shall be performed in the event of unusually hot/dry weather conditions (as are present during Santa Ana conditions, or other times of low humidity or high winds, or during a prolonged high temperature period during summer months).
  - b) Landscaped improved banks and slopes (if any) shall be irrigated Monday through Friday as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.
  - c) Shrub beds (if any) shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Shrub areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of shrub types, seasons and weather conditions.
  - d) Planted and seeded areas shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Planted and seeded areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of plant types, seasons and weather conditions.
4. **Maintenance of Irrigation System.** The Contractor shall keep controller and valve boxes (if any) clear of soil and debris and shall maintain the irrigation system at no additional cost to City, including replacement, repair, adjustment, raising or lowering, straightening and any other operation required for the continued proper operation of the system from the "cold" side of the water meter throughout the Revegetation Area. The Contractor shall also be responsible for maintaining the painted surfaces of irrigation and lighting controller cabinets as well as the corresponding automatic irrigation battery numbers on the lids of the automatic control valve boxes (if any). The Contractor shall be responsible for light bulb replacements in controller cabinets as necessary.
  - a) Repair or replacement includes: sprinkler system laterals (piping), sprinkler mains (pressure lines), vacuum breakers, sprinkler control valves, sprinkler controllers, sprinkler heads, sprinkler caps, sprinkler head risers, valve covers, boxes and lids (including electrical pull boxes and lids), valve sleeves and lids, quick coupler valves and hose bibs. Any replacement shall conform to the type

and kind of existing system. Any deviation shall be approved in writing by City.

- b) The Contractor shall repair irrigation systems which are damaged or altered in any way, including by acts of God, vandalism, vehicular damage, or theft.

5. **Operation of Automatic Irrigation Controllers.** Where the operation of automatic irrigation controllers is required as part of this LTRMMC, the Contractor shall:

- a) Not duplicate any coded City key furnished by City for access and operation of the controller;
- b) Surrender all keys furnished by City, promptly at the end of the term of this LTRMMC, or at any time deemed necessary by City to prevent serious loss to City;
- c) protect the security of City's property by keeping controller cabinet and building doors locked at all times; and
- d) refrain from using premises behind locked doors for storage of materials, supplies, or tools except as approved by City.

**B. Pruning Shrubs and Ground Cover Plants.** The Contractor shall prune all shrubs and ground cover plants growing in the Revegetation Area as required to:

- 1. Maintain plant growth viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.
- 2. Prevent encroachment of passage ways, walks, streets, or view of signs; and
- 3. Prevent encroachment in any manner deemed objectionable by the City.

The Contractor shall remove dead or damaged limbs with sharp pruning tools, with no stubs remaining. The Contractor shall seal any pruning cut which exceeds 2 inches in diameter with an approved pruning paint when required by the City. The Contractor shall perform pruning to permit plants to grow naturally in accordance with their normal growth characteristics except where box hedging is required by the City. The Contractor shall not shear, hedge, or severely prune plants, unless authorized by the City. The Contractor shall not use growth regulators.

**C. Tree Maintenance.** The Contractor shall maintain all trees and container plants in the revegetation area in accordance with instructions from the Project Biologist. The Contractor shall perform pruning to promote the best growth habits, appearance, and health of all trees and container plants, and to prevent encroachment which is in any manner deemed undesirable by City, in accordance with instructions from the Project Biologist. The Contractor is responsible for tree pruning that can be accomplished with a 12 foot pole saw by a worker standing on the ground. The Contractor shall not top trees.

1. **Potential Hazards.** The Contractor shall notify the City within 24 hours of any tree that shows signs of root heaving or leaning, or is in any manner a potential safety hazard. The Contractor shall immediately reestablish trees and shrubs that are uprooted due to storms, if possible. If trees or shrubs cannot be reestablished, Contractor shall remove them immediately (including roots) and fill the holes until replacement planting is complete.
2. **Replacement.** The Contractor shall completely remove and replace trees lost due to Contractor's faulty maintenance or negligence, as determined by the City. The Contractor shall replace trees in kind and size as determined by the City. If there is a difference in value between the tree lost and the replacement tree, the City will deduct the difference from payment to be made under this LTRMMA. The City shall determine the value of the tree lost using the latest International Society of Arboriculture (I.S.A.) guidelines for value determination.
3. **Staking.** The Contractor shall securely stake any newly planted trees and other trees needing support with two "lodge pole" type stakes placed on opposite sides of the tree outside the root ball and secured to the tree with at least two flexible rubber tree ties. The Contractor shall regularly inspect tree ties and stakes and reposition them as necessary to ensure against girdling and abrasion.

**D. Fertilization.** The Contractor shall fertilize the Revegetation Area as necessary in accordance with instructions from the Project Biologist to meet the success criteria specified in the Revegetation Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule Prior to any fertilization, Contractor shall submit to City Material Safety Data Sheets and a schedule of application showing the site, date, and approximate time of fertilizer application (Fertilizer Schedule). The Fertilization Schedule, regardless of its intensity, timing, or the number of sites covered daily or weekly, shall not excuse Contractor from performing any other Work regularly required under this LTRMMA. All fertilization shall first be approved by the Project Biologist.

1. The Contractor shall notify the City at least 48 hours before beginning any fertilization. Fertilizer shall be delivered to the site only in the original unopened containers bearing the manufacturer's guaranteed analysis. Damaged packages shall not be accepted. The Contractor shall furnish to the City with duplicate signed, legible copies of all certificates and invoices for all fertilizer to be used for this LTRMMA. The invoices shall state the grade, amount and quantity received. Both the copy to be retained by the City and the Contractor's copy shall be signed by the City, on site, before any fertilizer may be used.
2. Fertilizers, if necessary, shall be applied at the direction of the Project Biologist and according to manufacturer's product specifications.
3. If deemed necessary by the City to achieve required results, the Contractor shall apply other materials as directed by the City, including:

- a) iron chelate;
  - b) soil sulfur;
  - c) gypsum; or
  - d) surfactant enzymes such as Sarvon or Naiad.
4. The Contractor shall adequately irrigate the fertilized area(s) immediately following the application of fertilizers and/or amendments to force fertilizer material to rest directly on the soil surface. Drip irrigated areas shall be adequately hand watered using quick coupler valves and hoses to dissolve fertilizer.
- E. Weed Removal.** The Contractor shall completely remove weeds from the Revegetation Area, including all turf grass areas, shrub and ground cover areas, planters, tree wells, and cracks in paved areas, including sidewalks, parking lot, gutters and curbs, as shown on the Work Schedule. For the purposes of this Section, "Weed" means any undesirable or misplaced plant. The Contractor shall control Weeds by manual, mechanical, or chemical methods. The City or Project Biologist may restrict the use of chemical weed control in certain areas.
- F. Disease and Pest Control.** The Contractor shall regularly inspect the Revegetation Area for the presence of disease and insect or rodent infestation. The Contractor shall notify the City within 4 Days if disease or insect or rodent infestation is discovered. In its notice to the City, the Contractor shall identify the disease, insect, or rodent and specify the control measures to be taken. Upon approval of the City, the Contractor shall implement the approved control measures, exercising extreme caution in the application of all sprays, dusts, or other materials utilized. The Contractor shall continue the approved control measures until the disease, insect, or rodent is controlled to the satisfaction of the City.
1. All individuals who supervise the mixing and application of herbicides, pesticides, and rodenticides on behalf of the Contractor shall possess valid Qualified Applicators Certificate for Category B issued to them by the State Department of Food and Agriculture.
  2. The Contractor shall utilize all safeguards necessary during disease, insect or rodent control operations to ensure safety of the public and the employees of the Contractor, in accordance with current standard practices accepted by the State of California Department of Food and Agriculture. If the Contractor is unable to control the pest or disease, a pest control company will be hired and the cost shall be deducted from Contractor's monthly payment.
- G. Plant Replacement.** Except as provided in **Section H** below, the Contractor shall notify the City within 4 Days of the loss of plant material due to any cause.
1. The Contractor shall, at no cost to the City, replace any tree, shrub, ground cover, or other plant which is damaged or lost as a result of Contractor's

faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by the City.

2. If so directed by the City, the Contractor shall replace any plant damaged or lost that is not a result of the Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City. The City will pay for materials and labor.
3. The City may determine that certain plants should be replaced in order to ensure maximum ecological health and overall aesthetic appearance of planting in the Revegetation Area. When the City determines such replacement should occur, Contractor shall replace the plants as directed by the City. The City will pay for materials and labor.

**H. Damage Reports.** The Contractor shall notify the City within 24 hours of any damage to the Work Area caused by accident, vandalism, or theft.

**I. Litter.** The Contractor shall promptly dispose of all trash and debris at an appropriate City disposal site. The Contractor shall pay any and all fees associated with the disposal of debris or trash accumulated under the terms of this LTRMMA. The Contractor understands that disposal of refuse at City landfills is subject to a fee and that the Refuse Disposal Division can be contacted at (619) 573-1418 for fee information.

1. **Contractor Generated Litter.** The Contractor shall promptly remove all debris generated by the Contractor's pruning, trimming, weeding, edging and other Work required by this LTRMMA. Immediately after working in streets, park walks, gutters, driveways, and paved areas, the Contractor shall clean them in accordance with all applicable laws.
2. **Third Party Generated Litter.** Upon discovery, the Contractor shall remove all litter, including bottles, glass, cans, paper, cardboard, fecal matter, leaves, branches, metallic items, and other debris, from the Work site.

**J. Monitoring.** The Project Biologist will oversee all maintenance operations and conduct qualitative and quantitative biological monitoring of the Revegetation Area according to the schedule and methods described in the Revegetation Plan. The Project Biologist will be responsible for preparing and submitting monitoring reports according to the schedule and instructions in the Revegetation Plan. The Project Biologist will be an individual or team of individuals with 4-year degree(s) in botany, ecology, landscape architecture or a related field, and demonstrated experience in upland and riparian community restoration.

**EXHIBIT B**

**INSERT A COPY OF THE ENGINEER'S FIELD NOTIFICATION WHICH Date is to commence after  
120-Day PEP, SEE THE 2015 WHITEBOOK, SECTION 802**

**EXHIBIT C**

**LICENSE DATA SHEET**

**State Contractor License Classification and Number:**\_\_\_\_\_

Name of License Holder:\_\_\_\_\_

Expiration Date:\_\_\_\_\_

**City of San Diego Business License Number:**\_\_\_\_\_

Expiration Date:\_\_\_\_\_

**APPENDIX I**

**LONG-TERM RESTORATION MAINTENANCE AND MONITORING AGREEMENT**

## LONG-TERM RESTORATION MAINTENANCE AND MONITORING AGREEMENT

This **60-Month Long-Term Restoration Maintenance and Monitoring Agreement (LTRMMA)** is made and entered into by and between the City of San Diego (City), a municipal corporation, and **INSERT NAME OF CONTRACTOR - TO BE IDENTIFIED AFTER AWARD** (Contractor), who may be individually or collectively referred to herein as a "Party" or the "Parties."

### RECITALS

- D. Concurrent with execution of this LTRMMA, the Parties entered into a general contract (Construction Contract) for the construction of **North University City Fire Station 50, Design-Build, S-13021, Bid No. K-18-1459-DB2-3.**
- E. In accordance with the Construction Contract, the Contractor shall enter into this LTRMMA with the City for the purpose of implementing and fulfilling long-term maintenance requirements in accordance with the City of San Diego Municipal Code and the Contract Documents for the specified elopement(s) of **North University City Fire Station 50** (Maintenance Requirements). The performance of the terms of this LTRMMA shall commence immediately upon completion of performance of the Construction Contract.
- F. The Contractor is ready and willing to fulfill its maintenance requirements in accordance with the terms of this LTRMMA.

NOW, THEREFORE, in consideration of the above recitals and the mutual covenants and conditions set forth herein, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby set forth their mutual covenants and understandings as follows:

### INTRODUCTORY PROVISIONS

- F. **Recitals Incorporated.** The above referenced Recitals are true and correct and are incorporated into this LTRMMA by this reference.
- G. **Exhibits Incorporated.** All Exhibits and Attachments referenced in this LTRMMA are incorporated into this LTRMMA by this reference.
- H. **Contract Term.** This LTRMMA shall be effective upon completion of the Plant Establishment Period (PEP) as described in **Section 6-1.1** of (RFP) Attachment E and **Section 802** of the Construction Contract and it shall be effective until the completion of the Work as described below.
- I. **Terms and Conditions.** This LTRMMA is subject to the terms and conditions of the Construction Contract included in The GREENBOOK and The WHITEBOOK (**Part 1, Part 8, and Part 10**) except as otherwise stated in this LTRMMA.

**J. Partial Release of Payment Bond and Performance Bond.**

- 1. Performance of Contract in Two Phases.** There are two separate phases of Work to be performed by the Contractor under this Contract. The first phase covers the Work involved in the original agreement as described in this agreement (“Phase – 1 Work, Main Construction Contract”). The second phase (Phase 2 Work) covers the work involved in the long-term maintenance of the plants contained within the Revegetation and Restoration Area see (RFP) **Exhibit F**, Restoration & Revegetation Plan after Phase 1 Work has been completed.
- 2. Bond Handling for Contract Phases.** The Payment Bond and the Performance Bond covering Phase 1 Work on this Contract shall remain in full force and effort until completion of that phase is certified. The original Payment Bond and the original Performance Bond covering Phase 1 Work on this Contract shall continue in full force and effort for Phase 2 Work, however the value of each bond may be reduced as follows:

  - 2.1** Completion by the Contractor of all Phase 1 Work shall be evidenced solely by the City Engineer affirming in writing that to the best of their knowledge that all Phase 1 Work has been completed by the Contractor in strict conformity with all City-approved plans and revisions, and that the Phase 1 Work completed by the Contractor meets all applicable standards (“Notice of Completion”).
  - 2.2** Upon issuance by the City Engineer of the Notice of Completion for Phase 1 Work, the Payment Bond for this Project, and the Performance Bond for this Project, may be partially released, and thereby reduced for the Work performed under Phase 1. The remaining payment and performance bond will cover the full cost of Phase 2 Work on this Project, which will be the amount specified in Section 4.1 of this LTRMMA.
- 3. No Partial Release Upon Default.** No Partial Performance Bond Release and Reduction shall be given to the Contractor if the Performance Bond and/or this Agreement is in default on Phase 1 Work.

## SECTION 1 - MAINTENANCE CONTRACT SUMMARY

- 1.7. General.** The Contractor shall fulfill the Project's Maintenance Requirements (Work) as identified in the scope of work attached as **Exhibit A** (of Phase 2 Work) in a manner satisfactory to the City.

The Contractor shall provide all equipment, labor, and materials necessary to perform the **Work** as described in **Exhibit A** (of Phase 2 Work), at the direction of the City.

- 1.8. Work Schedule.** After receiving notification from the City, the Contractor shall create a comprehensive Schedule of Work (Schedule) for performance of this LTRMMA for the City's approval. The Schedule shall include routine work, inspection, and infrequent operations such as repairs, fertilization, aerification, watering, and pruning, and other details outlined in (RFP) **Exhibit F**, Restoration & Revegetation Plan..

The City will approve the Schedule prior to the commencement of the Work. The City may require the Contractor to revise the Schedule. The Contractor shall not revise the Schedule unless the revisions have received the prior written approval of the City.

- 1.9. Commencement of Work & Maintenance Period.** This LTRMMA shall commence when the City approves of the Work of the Plant Establishment Period and sends notice of the approval to the Contractor in accordance with **Part 8, Section 802** of the Construction Contract and shall continue for **60** months.

- 1.10. Performance of Work.** The Work shall be performed in accordance with the manufacturer's **recommendations** for each piece of equipment used in performance by the Contractor of this LTRMMA.

- 1.11. License.** The Contractor shall hold the following licenses in good standing:

**1.11.1. C-27 State Contractor's License.**

**1.11.1.1.** Alternatively, the Contractor shall retain the services of a Subcontractor with a **C-27** State Contractor's License.

**1.11.2. Pest Control Advisor's License.**

**1.11.2.1.** Alternatively, the Contractor shall retain the services of a licensed Pest Control Advisor.

**1.11.3. Registration with the County Agriculture Commission.**

**1.11.4. Qualified Applicator's Certificate for Category B.** This shall apply to any person supervising the use of pesticides, herbicides, or rodenticides.

**1.11.5. City of San Diego Business License.**

Prior to performing the Work, the Contractor shall complete and submit to the City the License Data Sheet. **See Exhibit C.**

- 1.12. Hours of Performance.** The Contractor shall perform the Work between the hours of 7:00 a.m. and 3:30 p.m., Monday through Friday (Working Hours). The City may, in its sole discretion, grant permission to the Contractor to perform Work during non-Working Hours. Maintenance functions that generate excess noise (operations of power equipment which would cause annoyance to area residents for example) shall not begin before 7:00 a.m.

## SECTION 2 - ADMINISTRATION

- 2.6. Contract Administrator. PUBLIC WORKS CONTRACTING (PWC)** is the Contract Administrator for the LTRMMA. The Contractor shall perform the Work under the direction of a designated representative of the Public Works Department. The City will communicate with the Contractor on all matters related to the administration of this LTRMMA and the Contractor's performance of the Work rendered hereunder. When this LTRMMA refers to communications to or with the City, those communications shall be with the City, unless the City or this LTRMMA specifies otherwise. Further, when this LTRMMA requires an act or approval by City, that act or approval will be performed by the City.
- 2.7. Local Office.** The Contractor shall maintain a local office with a company representative who is authorized to discuss matters pertaining to this LTRMMA with the City and shall promptly respond and be available during Normal Working Hours. A local office is one located in San Diego County that can be reached by telephone and facsimile. An answering service in conjunction with a company email address for the designated company representative may fulfill this requirement. A mobile telephone shall not fulfill the requirement for a local office. All calls to the Contractor from the City shall be returned within a 1-hour period.
- 2.8. Emergency Calls.** The Contractor shall have the capability to receive and to respond immediately to calls of an emergency nature. The City shall refer emergency calls to the Contractor for immediate disposition. The Contractor shall provide the City with a 24 hour emergency telephone number for this purpose.
- 2.9. Staffing.** The Contractor shall furnish supervisory and working personnel capable of promptly accomplishing all Work required under this LTRMMA on schedule and to the satisfaction of the City.
- 2.10. Contractor Inspections.** The Contractor shall perform inspections of the Work site and shall prepare and submit to the City a Punchlist and dates of correction. The Punchlist shall include a comprehensive report of Work performed at the Work site to ensure 100% cover.

## SETION 3: WORK SITE MAINTENANCE

- 3.5. Use of Chemicals.** The Contractor shall submit to the City for approval sample labels and MSDS for all chemical herbicides, rodenticides, and pesticides proposed for use under this LTRMC. Materials included shall be limited to chemicals approved by the State of California Department of Agriculture.

The use of any chemical shall be based on the recommendations of a licensed pest control advisor. Annual PCA Pesticide Recommendations are required for each pesticide proposed to be used for the Work site covered by this LTRMC. The use of chemicals shall conform to the current San Diego County Department of Agriculture regulations.

No chemical herbicide, rodenticide, or pesticide shall be applied until its use is approved, in writing, by City as appropriate for the purpose and area proposed.

The Contractor shall submit a monthly pesticide use report to the City along with the Contractor's invoices for payment. This report shall include a statement of all applications of herbicides, rodenticides, and pesticides, detailing the chemical used, undiluted quantity, rate of application, applicator's name, and the date and purpose of the application. For months in which no pesticides are applied, state "No Pesticide Used" on the report.

- 3.6. Irrigation Water.** The Contractor shall diligently practice water conservation, including minimizing run-off or other waste. The Contractor shall turn off irrigation systems, if any, during periods of rainfall and at such other times when suspension of irrigation is desirable to conserve water and to remain within the guidelines of good horticultural landscape maintenance practices in accordance with the instructions from the Project Biologist. The Contractor's failure to properly manage and conserve water may result in deductions from the monthly payment to be made to the Contractor or other penalties under this LTRMMA.

If the Contractor causes excessive use or waste of irrigation water, the estimated cost of that water shall be deducted from the monthly payment. Further, any monetary fines or other damages assessed to City for the Contractor's failure to follow water conservation regulations imposed by the City, the Public Utilities Department of the City of San Diego, and, where appropriate, the State of California, the County Water Authority, or other legal entities shall be solely the responsibility of the Contractor and may be deducted from the monthly payment to be made to the Contractor under this LTRMMA.

- 3.7. Payment for Water.** The Contractor shall pay for the water used in the maintenance of the Work site and this cost is included in the price of this LTRMMA.
- 3.8. Satisfactory Progression.** If the Restoration Area is not progressing towards the required 100% Cover, as defined in the Scope of Work, in accordance with the Work Schedule, and as determined by City, the City may adjust monthly payments to Contractor accordingly.

#### **SECTION 4: COMPENSATION**

- 4.5. Maximum Compensation.** The compensation for this LTRMMA shall not exceed \$ **CONTRACTOR'S LUMP SUM BID AMOUNT FOR THIS LONG-TERM RESTORATION MAINTENANCE AND MONITORING AGREEMENT - TO BE ESTABLISHED DURING THE AWARD PROCESS. SEE EXHIBIT A.** (of Phase 2 Work) (Contract Price).
- 4.6. Prevailing Wage Requirements.** The Prevailing Wages requirements in accordance with **Attachment D** of this Construction Contract are hereby incorporated by this reference.
- 4.7. Method of Payment and Reports.** The payments will be made monthly in direct proportion that each month bears to the total value of the Contract Price. As conditions precedent to payment, the Contractor shall submit a detailed invoice and report of maintenance Work performed every month. The Contractor's failure to submit the required reports or certified payrolls as described in the Construction Contract shall constitute a basis for withholding payment by the City.

**4.8. Final Payment.** The Contractor shall not receive final payment until the following conditions have been completed to the City's satisfaction:

**4.8.1** The item(s) of the Work subject to this maintenance coverage as specified in **Exhibit A** (of Phase 2 Work) (Maintenance Items) have been determined to be in compliance with the Construction Contract and this LTRMMA.

**4.8.2** The Contractor has provided to the City a signed and notarized Affidavit of Disposal, a copy of which is attached to the Construction Contract, stating that all brush, trash, debris, and surplus materials resulting from the Work have been disposed of in a legal manner.

**4.8.3** The Contractor has provided a final work summary report to the City.

**4.8.4** The Contractor has performed comprehensive and successful testing and checks of the Maintenance Items.

## **SECTION 5: BONDS AND INSURANCE**

**5.3. Contract Bonds.** Prior to the commencement of Work, the Contractor, at its sole cost and expense, shall provide the following bonds issued by a surety authorized to issue bonds in California satisfactory to the City:

**5.3.1.** A Payment Bond (Material and Labor Bond) in an amount not less than the Contract Price for this Bid item, to satisfy claims of material suppliers and mechanics and laborers employed by it on the Work. The Payment Bond shall be maintained by the Contractor in full force and effect until the Work is accepted by City and until all claims for materials and labor are paid, and shall otherwise comply with the California Civil Code.

**5.3.2.** A Performance Bond in an amount not less than the Contract Price for this bid item to guarantee the faithful performance of all Work within the time prescribed in a manner satisfactory to the City and to guarantee all materials and workmanship will be free from original or developed defects. The Performance Bond shall remain in full force and effect until performance of the Work is completed as set forth in this LTRMMA.

**5.4. Insurance.** The Contractor shall maintain insurance coverage as specified in Section 7-3, "INSURANCE" of the Construction Contract at all times during the term of this LTRMMA.

The Contractor shall not begin the Work under this LTRMMA until they have complied with the following:

**5.4.1.** Obtain insurance certificates reflecting evidence of insurance:

4. Commercial General Liability
5. Commercial Automobile Liability

6. Worker's Compensation

- 5.4.2.** Confirm that all policies contain the specific provisions required in Section 7-3, "INSURANCE."

The Contractor shall submit copies of any policy upon request by the City.

The Contractor shall not modify any policy or endorsement thereto which increases the City's exposure to loss for the duration of this LTRMMA.

**SECTION 6: MISCELLANEOUS**

- 6.14. Illness and Injury Prevention Program.** The Contractor shall comply with all the mandates of Senate Bill 198 and shall specifically have a written Injury Prevention Program on file with the City in accordance with all applicable standards, orders, or requirements of California Labor Code, Section 6401.7. This Program shall be on file prior to the performance of any Work.
- 6.15. City Standard Provisions.** This LTRMMA is subject to the following standard provisions:
- 6.15.1.** WHITEBOOK, Section 7-13.3, Drug-Free Workplace (As adopted pursuant to City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace).
  - 6.15.2.** WHITEBOOK, Section 7-13.2, Americans with Disabilities (As adopted pursuant to City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act).
  - 6.15.3.** WHITEBOOK, Section 7-13.4, Contractor Standards and Pledge of Compliance (As adopted pursuant to City of San Diego Municipal Code §22.3224 as amended 11/24/08 by ordinance O-19808 for Pledge of Compliance).
  - 6.15.4.** WHITEBOOK, Section 7-13.6.1, Notice of Labor Compliance Program Approval (As adopted pursuant to the City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776 (Stats. 1978, Ch. 1249)).
  - 6.15.5.** WHITEBOOK, Section, 7-13.7, Apprentices on Public Works (As adopted pursuant to Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts).
  - 6.15.6.** WHITEBOOK, Section 7-13.5, Equal Benefits (As adopted pursuant to the City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code).
  - 6.15.7.** WHITEBOOK, Section 2-17, Information Security Policy (As adopted pursuant to the City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63).
- 6.16. Taxpayer Identification Number.** I.R.S. regulations require the City to have the correct name, address, and Taxpayer Identification Number (TIN) or Social Security Number (SSN)

on file for businesses or persons who provide services or products to the City. This information is necessary to complete Form 1099 at the end of each tax year. As such, the Contractor shall provide the City with a Form W-9 upon execution of this LTRMMA.

- 6.17. Assignment.** The Contractor shall not assign the obligations under this LTRMMA, whether by express assignment or by sale of the company, nor any monies due or to become due, without the City's prior written approval. Any assignment in violation of this section shall constitute a Default and is grounds for immediate termination of this LTRMMA, at the sole discretion of City. In no event shall any putative assignment create a contractual relationship between the City and any putative assignee.
- 6.18. Independent Contractors.** The Contractor and any Subcontractors employed by Contractor shall be independent contractors and not agents of the City. Any provisions of this LTRMMA that may appear to give the City any right to direct the Contractor concerning the details of performing the Work, or to exercise any control over such performance, shall mean only that the Contractor shall follow the direction of the City concerning the end results of the performance.
- 6.19. Covenants and Conditions.** All provisions of this LTRMMA expressed as either covenants or conditions on the part of the City or the Contractor shall be deemed to be both covenants and conditions.
- 6.20. Jurisdiction and Venue.** The jurisdiction and venue for any suit or proceeding arising out of or concerning this LTRMMA, the interpretation or application of any of its terms, or any related disputes shall be the County of San Diego, State of California.
- 6.21. Successors in Interest.** This LTRMMA and all rights and obligations created by it shall be in force and effect whether or not any Parties to this LTRMMA have been succeeded by another entity and all rights and obligations created by this LTRMMA shall be vested and binding on any Party's successor in interest.
- 6.22. Integration.** This LTRMMA and the exhibits, attachments, and references incorporated into this LTRMMA fully express all understandings of the Parties concerning the matters covered in this LTRMMA. No change, alteration, or modification of the terms or conditions of this LTRMMA, and no verbal understanding of the Parties, their officers, agents, or employees shall be valid unless made in the form of a written change agreed to in writing by both Parties or by an amendment to this LTRMMA agreed to by both Parties. All prior negotiations and agreements shall be merged into this LTRMMA.
- 6.23. Counterparts.** This LTRMMA may be executed in counterparts, which when taken together shall constitute a single signed original as though all Parties had executed the same page.
- 6.24. No Waiver.** Any failure of either the City or the Contractor to insist upon the strict performance by the other of any covenant, term, or condition of this LTRMMA, nor any failure to exercise any right or remedy consequent upon a breach of any covenant, term, or condition of this LTRMMA, shall constitute a waiver of any such breach or of such covenant, term, or condition. No waiver of any breach shall affect or alter this LTRMMA,

and each and every covenant, condition, and term hereof shall continue in full force and effect to any existing or subsequent breach.

**6.25. Severability.** The unenforceability, invalidity, or illegality of any provision of this LTRMMA shall not render any other provision of this LTRMMA unenforceable, invalid, or illegal.

**AT LEAST 1 PARAGRAPH OF THIS LTRMMA MUST BE ON SAME PAGE SIGNATURES.**

**6.26. Signing Authority.** The representative for each Party signing on behalf of a corporation, partnership, joint venture or governmental entity hereby declares that authority has been obtained to sign on behalf of the corporation, partnership, joint venture, or entity and agrees to hold the other Party or Parties hereto harmless if it is later determined that such authority does not exist.

IN WITNESS WHEREOF, this Contract is executed by the City of San Diego, acting by and through its Public Works Department Director in accordance with Resolution No. R-**INSERT NUMBER OF RESOLUTION AUTHORIZING ADVERTISING AND AWARD OF THE UNDERLYING CONSTRUCTION CONTRACT**, and by Contractor.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, **INSERT YEAR.**

THE CITY OF SAN DIEGO

By: \_\_\_\_\_  
Mayor or designee

I HEREBY CERTIFY I can legally bind **NAME OF CONTRACTOR TO BE DETERMINED DURING AWARD PROCESS** and that I have read this entire contract, this \_\_\_\_\_ day of \_\_\_\_\_, **INSERT YEAR.**

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

I HEREBY APPROVE the form of the foregoing Contract this

\_\_\_\_\_ day \_\_\_\_\_ of **INSERT YEAR.**

Mara W. Elliott, City Attorney

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Deputy City Attorney

## EXHIBIT A

### SCOPE OF WORK

- I. **Location of Work.** The location of the Work to be performed (Restoration Area) is shown on Exhibit F of the RFP and the Bridging Documents, Sheet 33-D which are incorporated into this Contract by this reference as though fully set forth herein.
- II. **Description of Work.** The Contractor shall maintain and monitor the Restoration Area during the Monitoring Program in accordance with this Contract and the Specifications such that the Restoration Area meets the success criteria specified in the Restoration Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule. The Work includes complete landscape maintenance consisting of irrigation, pruning, shaping and training of trees, shrubs, and ground cover plants; fertilization; weed control; control of all plant diseases and pests; and trash removal, and all other maintenance listed in this Contract and as required to maintain the Revegetation Area in a useable condition and to maintain the plant material in a healthy and viable state. The Work also includes biological monitoring of the Restoration Area according to the schedule and methods specified in the Restoration Plan. The monitoring work shall include all reporting tasks specified in the Restoration plan.
- III. **Method of Performing Work.**
  - K. **Irrigation.** Irrigation shall be applied to container and salvaged plants in accordance with instructions from the Project Biologist. Irrigation delivery techniques and schedules will vary depending on the availability of a sprinkler irrigation system and weather patterns. Failure of an existing irrigation system to provide full and proper irrigation shall not relieve Contractor of the responsibility to provide adequate irrigation with full and proper coverage of all areas subject to this LTRMMA.
    6. In areas where an automatic sprinkler system is installed, Contractor shall periodically inspect the operation of the system for any malfunction. The maximum interval between inspections shall not exceed 7 Days. The Contractor shall maintain all sprinkler systems in such a way as to guarantee proper coverage and full working capability, and shall make whatever adjustments may be necessary to prevent excessive run-off into streets, rights-of-way, or other areas not meant to be irrigated. The cost of wasted water may be charged to Contractor.
    7. All areas not adequately covered by a sprinkler system shall be irrigated by a portable irrigation method in accordance with instructions from the Project Biologist. The Contractor shall furnish all hoses, nozzles, sprinklers, etc. necessary to accomplish this supplementary irrigation. The Contractor shall exercise due diligence to prevent water waste, erosion, and detrimental seepage into existing underground improvements and to existing structures.

8. Irrigation shall be accomplished as follows:
- e) Turf (if any) shall be irrigated Monday through Friday, as required, to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Additional irrigation shall be performed in the event of unusually hot/dry weather conditions (as are present during Santa Ana conditions, or other times of low humidity or high winds, or during a prolonged high temperature period during summer months).
  - f) Landscaped improved banks and slopes (if any) shall be irrigated Monday through Friday as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.
  - g) Shrub beds (if any) shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Shrub areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of shrub types, seasons and weather conditions.
  - h) Planted and seeded areas shall be irrigated as required to maintain acceptable growth, viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist. Planted and seeded areas shall be irrigated at a rate which keeps surface runoff to a minimum. The irrigation rate shall be adjusted to the needs of plant types, seasons and weather conditions.
9. **Maintenance of Irrigation System.** The Contractor shall keep controller and valve boxes (if any) clear of soil and debris and shall maintain the irrigation system at no additional cost to City, including replacement, repair, adjustment, raising or lowering, straightening and any other operation required for the continued proper operation of the system from the "cold" side of the water meter throughout the Restoration Area. The Contractor shall also be responsible for maintaining the painted surfaces of irrigation and lighting controller cabinets as well as the corresponding automatic irrigation battery numbers on the lids of the automatic control valve boxes (if any). The Contractor shall be responsible for light bulb replacements in controller cabinets as necessary.
- c) Repair or replacement includes: sprinkler system laterals (piping), sprinkler mains (pressure lines), vacuum breakers, sprinkler control valves, sprinkler controllers, sprinkler heads, sprinkler caps, sprinkler head risers, valve covers, boxes and lids (including electrical pull boxes and lids), valve sleeves and lids, quick coupler valves and hose bibs. Any replacement shall conform to the type

and kind of existing system. Any deviation shall be approved in writing by City.

- d) The Contractor shall repair irrigation systems which are damaged or altered in any way, including by acts of God, vandalism, vehicular damage, or theft.

10. **Operation of Automatic Irrigation Controllers.** Where the operation of automatic irrigation controllers is required as part of this LTRMMC, the Contractor shall:

- e) Not duplicate any coded City key furnished by City for access and operation of the controller;
- f) Surrender all keys furnished by City, promptly at the end of the term of this LTRMMC, or at any time deemed necessary by City to prevent serious loss to City;
- g) protect the security of City's property by keeping controller cabinet and building doors locked at all times; and
- h) refrain from using premises behind locked doors for storage of materials, supplies, or tools except as approved by City.

**L. Pruning Shrubs and Ground Cover Plants.** The Contractor shall prune all shrubs and ground cover plants growing in the Restoration Area as required to:

- 4. Maintain plant growth viability and health, and to encourage deep rooting, in accordance with instructions from the Project Biologist.
- 5. Prevent encroachment of passage ways, walks, streets, or view of signs; and
- 6. Prevent encroachment in any manner deemed objectionable by the City.

The Contractor shall remove dead or damaged limbs with sharp pruning tools, with no stubs remaining. The Contractor shall seal any pruning cut which exceeds 2 inches in diameter with an approved pruning paint when required by the City. The Contractor shall perform pruning to permit plants to grow naturally in accordance with their normal growth characteristics except where box hedging is required by the City. The Contractor shall not shear, hedge, or severely prune plants, unless authorized by the City. The Contractor shall not use growth regulators.

**M. Tree Maintenance.** The Contractor shall maintain all trees and container plants in the Restoration area in accordance with instructions from the Project Biologist. The Contractor shall perform pruning to promote the best growth habits, appearance, and health of all trees and container plants, and to prevent encroachment which is in any manner deemed undesirable by City, in accordance with instructions from the Project Biologist. The Contractor is responsible for tree pruning that can be accomplished with a 12 foot pole saw by a worker standing on the ground. The Contractor shall not top trees.

4. **Potential Hazards.** The Contractor shall notify the City within 24 hours of any tree that shows signs of root heaving or leaning, or is in any manner a potential safety hazard. The Contractor shall immediately reestablish trees and shrubs that are uprooted due to storms, if possible. If trees or shrubs cannot be reestablished, Contractor shall remove them immediately (including roots) and fill the holes until replacement planting is complete.
5. **Replacement.** The Contractor shall completely remove and replace trees lost due to Contractor's faulty maintenance or negligence, as determined by the City. The Contractor shall replace trees in kind and size as determined by the City. If there is a difference in value between the tree lost and the replacement tree, the City will deduct the difference from payment to be made under this LTRMMA. The City shall determine the value of the tree lost using the latest International Society of Arboriculture (I.S.A.) guidelines for value determination.
6. **Staking.** The Contractor shall securely stake any newly planted trees and other trees needing support with two "lodge pole" type stakes placed on opposite sides of the tree outside the root ball and secured to the tree with at least two flexible rubber tree ties. The Contractor shall regularly inspect tree ties and stakes and reposition them as necessary to ensure against girdling and abrasion.

**N. Fertilization.** The Contractor shall fertilize the Restoration Area as necessary in accordance with instructions from the Project Biologist to meet the success criteria specified in the Restoration Plan at each of the milestones listed and on the last date of the Monitoring Program as set forth in the Work Schedule Prior to any fertilization, Contractor shall submit to City Material Safety Data Sheets and a schedule of application showing the site, date, and approximate time of fertilizer application (Fertilizer Schedule). The Fertilization Schedule, regardless of its intensity, timing, or the number of sites covered daily or weekly, shall not excuse Contractor from performing any other Work regularly required under this LTRMMA. All fertilization shall first be approved by the Project Biologist.

5. The Contractor shall notify the City at least 48 hours before beginning any fertilization. Fertilizer shall be delivered to the site only in the original unopened containers bearing the manufacturer's guaranteed analysis. Damaged packages shall not be accepted. The Contractor shall furnish to the City with duplicate signed, legible copies of all certificates and invoices for all fertilizer to be used for this LTRMMA. The invoices shall state the grade, amount and quantity received. Both the copy to be retained by the City and the Contractor's copy shall be signed by the City, on site, before any fertilizer may be used.
6. Fertilizers, if necessary, shall be applied at the direction of the Project Biologist and according to manufacturer's product specifications.
7. If deemed necessary by the City to achieve required results, the Contractor shall apply other materials as directed by the City, including:

- e) iron chelate;
  - f) soil sulfur;
  - g) gypsum; or
  - h) surfactant enzymes such as Sarvon or Naiad.
8. The Contractor shall adequately irrigate the fertilized area(s) immediately following the application of fertilizers and/or amendments to force fertilizer material to rest directly on the soil surface. Drip irrigated areas shall be adequately hand watered using quick coupler valves and hoses to dissolve fertilizer.
- O. Weed Removal.** The Contractor shall completely remove weeds from the Restoration Area, including all turf grass areas, shrub and ground cover areas, planters, tree wells, and cracks in paved areas, including sidewalks, parking lot, gutters and curbs, as shown on the Work Schedule. For the purposes of this Section, "Weed" means any undesirable or misplaced plant. The Contractor shall control Weeds by manual, mechanical, or chemical methods. The City or Project Biologist may restrict the use of chemical weed control in certain areas.
- P. Disease and Pest Control.** The Contractor shall regularly inspect the Restoration Area for the presence of disease and insect or rodent infestation. The Contractor shall notify the City within 4 Days if disease or insect or rodent infestation is discovered. In its notice to the City, the Contractor shall identify the disease, insect, or rodent and specify the control measures to be taken. Upon approval of the City, the Contractor shall implement the approved control measures, exercising extreme caution in the application of all sprays, dusts, or other materials utilized. The Contractor shall continue the approved control measures until the disease, insect, or rodent is controlled to the satisfaction of the City.
- 3. All individuals who supervise the mixing and application of herbicides, pesticides, and rodenticides on behalf of the Contractor shall possess valid Qualified Applicators Certificate for Category B issued to them by the State Department of Food and Agriculture.
  - 4. The Contractor shall utilize all safeguards necessary during disease, insect or rodent control operations to ensure safety of the public and the employees of the Contractor, in accordance with current standard practices accepted by the State of California Department of Food and Agriculture. If the Contractor is unable to control the pest or disease, a pest control company will be hired and the cost shall be deducted from Contractor's monthly payment.
- Q. Plant Replacement.** Except as provided in **Section H** below, the Contractor shall notify the City within 4 Days of the loss of plant material due to any cause.
- 4. The Contractor shall, at no cost to the City, replace any tree, shrub, ground cover, or other plant which is damaged or lost as a result of Contractor's

faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by the City.

5. If so directed by the City, the Contractor shall replace any plant damaged or lost that is not a result of the Contractor's faulty maintenance or negligence. The size and species of replacement plant materials shall be as directed by City. The City will pay for materials and labor.
6. The City may determine that certain plants should be replaced in order to ensure maximum ecological health and overall aesthetic appearance of planting in the Restoration Area. When the City determines such replacement should occur, Contractor shall replace the plants as directed by the City. The City will pay for materials and labor.

**R. Damage Reports.** The Contractor shall notify the City within 24 hours of any damage to the Work Area caused by accident, vandalism, or theft.

**S. Litter.** The Contractor shall promptly dispose of all trash and debris at an appropriate City disposal site. The Contractor shall pay any and all fees associated with the disposal of debris or trash accumulated under the terms of this LTRMMA. The Contractor understands that disposal of refuse at City landfills is subject to a fee and that the Refuse Disposal Division can be contacted at (619) 573-1418 for fee information.

3. **Contractor Generated Litter.** The Contractor shall promptly remove all debris generated by the Contractor's pruning, trimming, weeding, edging and other Work required by this LTRMMA. Immediately after working in streets, park walks, gutters, driveways, and paved areas, the Contractor shall clean them in accordance with all applicable laws.

4. **Third Party Generated Litter.** Upon discovery, the Contractor shall remove all litter, including bottles, glass, cans, paper, cardboard, fecal matter, leaves, branches, metallic items, and other debris, from the Work site.

**T. Monitoring.** The Project Biologist will oversee all maintenance operations and conduct qualitative and quantitative biological monitoring of the Restoration Area according to the schedule and methods described in the Restoration Plan. The Project Biologist will be responsible for preparing and submitting monitoring reports according to the schedule and instructions in the Restoration Plan. The Project Biologist will be an individual or team of individuals with 4-year degree(s) in botany, ecology, landscape architecture or a related field, and demonstrated experience in upland and riparian community restoration.

**EXHIBIT B**

**INSERT A COPY OF THE ENGINEER'S FIELD NOTIFICATION WHICH Date is to commence after  
120-Day PEP, SEE THE 2015 WHITEBOOK, SECTION 802**

**EXHIBIT C**

**LICENSE DATA SHEET**

**State Contractor License Classification and Number:**\_\_\_\_\_

Name of License Holder:\_\_\_\_\_

Expiration Date:\_\_\_\_\_

**City of San Diego Business License Number:**\_\_\_\_\_

Expiration Date:\_\_\_\_\_

**ATTACHMENT F**  
**SITE DEVELOPMENT PERMIT (SDP)**

DOC# 2017-0501218



Oct 27, 2017 10:27 AM  
OFFICIAL RECORDS  
Ernest J. Dronenburg, Jr.,  
SAN DIEGO COUNTY RECORDER  
FEES: \$147.00

PAGES: 45

**RECORDING REQUESTED BY**  
CITY OF SAN DIEGO  
DEVELOPMENT SERVICES  
PERMIT INTAKE, MAIL STATION  
501  
**WHEN RECORDED MAIL TO**  
**PROJECT MANAGEMENT**  
**PERMIT CLERK**  
**MAIL STATION 501**

WBS NUMBER S-13021.02.06

SPACE ABOVE THIS LINE FOR RECORDER'S USE

SITE DEVELOPMENT PERMIT NO. 1924573  
**NORTH UNIVERSITY FIRE STATION NO. 50 PROJECT NO. 463835 [MMRP]**  
DEVELOPMENT SERVICES

This Site Development Permit No. 1924573 is granted by the Development Services Department of the City of San Diego to City of San Diego Public Works Department, Owner/Permittee, pursuant to San Diego Municipal Code [SDMC] section 126.0504. The 0.94-acre development area is located in the RS 1-14 zone(s) of the University Community Plan. The project site is legally described as: a Portion of Pueblo Lot 1304 of the Pueblo Lands of San Diego, in the City of San Diego, County of San Diego, State of California, According to map thereof made by James Pascoe in 1870, A Copy of which map was filed in the office of San Diego County Recorder, November 14, 1921 and Misc. Map No 36.

Subject to the terms and conditions set forth in this Permit, permission is granted to City of San Diego to City of San Diego Public Works Department, Owner/Permittee to construct a new three story approximately 16,077 square foot fire station including a workshop, vestibule, watch room, exterior patio, and associated components. The project also includes an apparatus bay with three "slots" for storage of the fire engines and ambulances; a 14-space parking lot with gated entry; a storage area for a fuel tank, generator, and transformer; a trash enclosure; and landscaping/signage. The project also includes a Multiple Species Conservation Program, Multiple Habitat Planning Area (MSCP/MHPA) Boundary Line Adjustment (BLA) as described and identified by size, dimension, quantity, type, and location on the approved exhibits [Exhibit "A"] dated October 4, 2017, on file in the Development Services Department.

The project shall include:

- a. Construct a new three story approximately 16,077 square foot fire station.
- b. Landscaping (planting, irrigation and landscape related improvements);
- c. Off-street parking;
- d. Retaining walls ;
- e. MSCP/MHPA Boundary Line Adjustment; and

- f. Public and private accessory improvements determined by the Development Services Department to be consistent with the land use and development standards for this site in accordance with the adopted community plan, the California Environmental Quality Act [CEQA] and the CEQA Guidelines, the City Engineer's requirements, zoning regulations, conditions of this Permit, and any other applicable regulations of the SDMC.

**STANDARD REQUIREMENTS:**

1. This permit must be utilized within one hundred and twenty (120) months after the date on which all rights of appeal have expired. If this permit is not utilized in accordance with Chapter 12, Article 6, Division 1 of the SDMC within the 120 month period, this permit shall be void unless an Extension of Time has been granted. Any such Extension of Time must meet all SDMC requirements and applicable guidelines in effect at the time the extension is considered by the appropriate decision maker. This permit must be utilized by October 20, 2027.
2. No permit for the construction, occupancy, or operation of any facility or improvement described herein shall be granted, nor shall any activity authorized by this Permit be conducted on the premises until:
  - a. The Owner/Permittee signs and returns the Permit to the Development Services Department; and
  - b. The Permit is recorded in the Office of the San Diego County Recorder.
3. While this Permit is in effect, the subject property shall be used only for the purposes and under the terms and conditions set forth in this Permit unless otherwise authorized by the appropriate City decision maker.
4. This Permit is a covenant running with the subject property and all of the requirements and conditions of this Permit and related documents shall be binding upon the Owner/Permittee and any successor(s) in interest.
5. The continued use of this Permit shall be subject to the regulations of this and any other applicable governmental agency.
6. Issuance of this Permit by the City of San Diego does not authorize the Owner/Permittee for this Permit to violate any Federal, State or City laws, ordinances, regulations or policies including, but not limited to, the Endangered Species Act of 1973 [ESA] and any amendments thereto (16 U.S.C. § 1531 et seq.).

7. The Owner/Permittee shall secure all necessary building permits. The Owner/Permittee is informed that to secure these permits, substantial building modifications and site improvements may be required to comply with applicable building, fire, mechanical, and plumbing codes, and State and Federal disability access laws.

8. Construction plans shall be in substantial conformity to Exhibit "A." Changes, modifications, or alterations to the construction plans are prohibited unless appropriate application(s) or amendment(s) to this Permit have been granted.

9. All of the conditions contained in this Permit have been considered and were determined necessary to make the findings required for approval of this Permit. The Permit holder is required to comply with each and every condition in order to maintain the entitlements that are granted by this Permit.

#### **ENVIRONMENTAL/MITIGATION REQUIREMENTS:**

10. Mitigation requirements in the Mitigation, Monitoring, and Reporting Program [MMRP] shall apply to this Permit. These MMRP conditions are hereby incorporated into this Permit by reference.

11. The mitigation measures specified in the MMRP and outlined in Mitigated Negative Declaration, NO. 463835, shall be noted on the construction plans and specifications under the heading ENVIRONMENTAL MITIGATION REQUIREMENTS.

12. The Owner/Permittee shall comply with the MMRP as specified in Mitigated Negative Declaration, NO. 463835, to the satisfaction of the Development Services Department and the City Engineer. Prior to the issuance of the "Notice to Proceed" with construction, all conditions of the MMRP shall be adhered to, to the satisfaction of the City Engineer. All mitigation measures described in the MMRP shall be implemented for the following issue areas: **Historical Resources (Archaeology), Paleontological Resources, Biological Resources and Land Use.**

#### **AIRPORT REQUIREMENTS:**

13. Prior to the issuance of any building permits, the Owner/Permittee shall provide a copy of the signed agreement [DS-503] and show certification on the building plans verifying that the structures do not require Federal Aviation Administration [FAA] notice for Determination of No Hazard to Air Navigation, or provide an FAA Determination of No Hazard to Air Navigation as specified in Information Bulletin 520.

#### **GEOLOGY:**

14. Prior to the issuance of any construction permits (either grading or building permits), the Owner/Permittee shall submit a geotechnical investigation report that specifically addressed the proposed construction plans and provides the information required per the City's Storm Water Standards. The geotechnical investigation report or update letter shall be reviewed for adequacy by the Geology Section of Development services prior to the issuance of any construction permit.

**ENGINEERING REQUIREMENTS:**

15. All excavated material listed to be exported, shall be exported to a legal disposal site in accordance with the Standard Specifications for Public Works Construction (the "Green Book"), 2015 edition and Regional Supplement Amendments adopted by Regional Standards Committee.
16. The drainage system proposed for this development, as shown on the site plan, is public and subject to approval by the City Engineer.
17. All Public Improvements shall be constructed per approved Exhibit 'A' and satisfactory to the City Engineer.
18. The project shall incorporate any construction Best Management Practices necessary to comply with Chapter 14, Article 2, Division 1 (Grading Regulations) of the SDMC, into the construction plans or specifications.
19. Project shall prepare a Technical Report that will be subject to final review and approval by the City Engineer, based on the Storm Water Standards in effect at the time of the construction permit issuance.
20. Project shall prepare a Water Pollution Control Plan (WPCP). The WPCP shall be prepared in accordance with the guidelines in Part 2 Construction BMP Standards Chapter 4 of the City's Storm Water Standards.

**LANDSCAPE REQUIREMENTS:**

21. Prior to the preconstruction meeting or "Notice to Proceed", the Owner/Permittee shall submit to Development Services Department complete construction documents for the revegetation and hydroseeding of all disturbed land in accordance with the Landscape Standards and to the satisfaction of the Development Services Department. All plans shall be in substantial conformance to this permit (including Environmental conditions) and Exhibit 'A,' on file in the Office of the Development Services Department.
22. Prior to the preconstruction meeting or "Notice to Proceed", the Owner/Permittee shall submit complete Landscape Construction Documents showing the brush management zones on the property in substantial conformance with Exhibit 'A' in accordance with the Landscape Standards and to the satisfaction of the Development Services Department.
23. Prior to the preconstruction meeting or "Notice to Proceed" with any right-of-way improvements, the Owner/Permittee shall submit complete landscape construction documents for right-of-way improvements to the Development Services Department for approval. Improvement plans shall show, label, and dimension a 40 square foot area around each tree which is unencumbered by utilities. Driveways, utilities, drains, water and sewer laterals shall be designed so as not to prohibit the placement of street trees.

24. In the event that a foundation only permit is requested, the Owner/Permittee shall submit a site plan or staking layout plan identifying all landscape areas consistent with Exhibit 'A,' Landscape Development Plan, on file in the Office of the Development Services Department. These landscape areas shall be clearly identified with a distinct symbol, noted with dimensions and labeled as 'landscaping area.'

25. Prior to the issuance of any construction permits for structures, the Owner/Permittee shall submit complete landscape and irrigation construction documents consistent with the Landscape Standards to the Development Services Department for approval. The construction documents shall be in substantial conformance with Exhibit 'A,' Landscape Development Plan, on file in the Development Services Department. Construction plans shall show, label, and dimension a 40 square foot area around each tree which is unencumbered by hardscape and utilities as set forth under LDC 142.0403(b)(5).

26. Prior to issuance of any construction permits for structures, the Owner/Permittee shall submit a water budget in accordance with the Water Conservation Requirements per SDMC 142.0413, Table 142-04I, to be included with the construction documents. An irrigation audit shall be submitted consistent with Section 2.7 of the Landscape Standards of the Land Development Manual at final inspection. The irrigation audit shall certify that all irrigation systems have been installed and operate as approved by the Development Services Department.

27. The Owner/Permittee shall be responsible for the maintenance of all landscape improvements shown on the approved plans, including in the right-of-way, consistent with the Landscape Standards unless long-term maintenance of said landscaping will be the responsibility of a Landscape Maintenance District or other approved entity. All required landscape shall be maintained in a disease, weed and litter free condition at all times. Severe pruning or "topping" of trees is not permitted unless specifically noted in this Permit.

28. If any required landscape (including existing or new plantings, hardscape, landscape features, etc.) indicated on the approved construction document plans is damaged or removed during demolition or construction, the Owner/Permittee shall repair and/or replace it in kind and equivalent size per the approved documents to the satisfaction of the Development Services Department within 30 days of damage.

**MULTIPLE SPECIES CONSERVATION PROGRAM:**

The following documents (Documents "A" and "B" listed below) are incorporated as part of the project's Exhibit "A" and are required by this permit and incorporated by reference. MHPA "give and take" areas outlined in Document "A" shall be included as gain, or removed as loss in Habitrak according to the approved BLA. MHPA areas amended by the BLA shall be to Habitrak in the appropriate MSCP annual reporting year (i.e. the year construction permits or notice to proceed are obtained).

Document A. "Multi-Habitat Planning Area Boundary Line Adjustment Equivalency Analysis for the North University City Fire Station 50 Project (RECON and City MSCP Planning, September 26, 2017"

Document B "Restoration and Revegetation Plan for the North City University City Fire Station 50 Project (RECON, September 14, 2017)".

**TRANSPORTATION REQUIREMENTS**

29. The Owner/Permittee shall construct a traffic signal at the intersection of Fire Station No. 50 driveway and Nobel Drive, with signal interconnect to the adjacent traffic signals, satisfactory to the City Engineer. This traffic signal shall be completed and accepted by the City Engineer prior to the issuance of the first certificate of occupancy for the project.

30. The Owner/Permittee shall construct a commercial driveway on Shoreline Drive and an exit only restricted access commercial driveway on Nobel Drive per Exhibit "A," satisfactory to the City Engineer. These driveways shall be completed and accepted by the City Engineer prior to the issuance of the first certificate of occupancy for the project.

31. Parking spaces east of apparatus bay should be signed as "Employee Only" parking since the spaces cannot be accessed by the public

**INFORMATION ONLY:**

- The issuance of this discretionary permit alone does not allow the immediate commencement or continued operation of the proposed use on site. Any operation allowed by this discretionary permit may only begin or recommence after all conditions listed on this permit are fully completed and all required ministerial permits have been issued and received final inspection.
- Any party on whom fees, dedications, reservations, or other exactions have been imposed as conditions of approval of this Permit, may protest the imposition within ninety days of the approval of this development permit by filing a written protest with the City Clerk pursuant to California Government Code-section 66020.

APPROVED by the Development Services Department of the City of San Diego on October 4, 2017 and Resolution CM 6712.

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

**CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California  
County of San Diego  
On October 26, 2017 before me, Rose Marie White Notary Public  
Date Here Insert Name and Title of the Officer  
personally appeared Rowanda Jordan  
Name(s) of Signer(s)  
Helene Deisher

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Rose Marie White  
Signature of Notary Public

Place Notary Seal Above

**OPTIONAL**

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_  
Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_  
Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner —  Limited  General  
 Individual  Attorney in Fact  
 Trustee  Guardian or Conservator  
 Other: \_\_\_\_\_  
Signer Is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_  
 Corporate Officer — Title(s): \_\_\_\_\_  
 Partner —  Limited  General  
 Individual  Attorney in Fact  
 Trustee  Guardian or Conservator  
 Other: \_\_\_\_\_  
Signer Is Representing: \_\_\_\_\_

AUTHENTICATED BY THE CITY OF SAN DIEGO DEVELOPMENT SERVICES DEPARTMENT

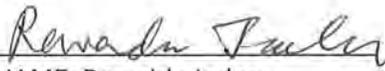
  
\_\_\_\_\_  
Helene Deisher  
Development Project Manager

**NOTE: Notary acknowledgment  
must be attached per Civil Code  
section 1189 et seq.**

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**The undersigned Owner/Permittee**, by execution hereof, agrees to each and every condition of this Permit and promises to perform each and every obligation of Owner/Permittee hereunder.

City of San Diego, Public Works Department  
Owner/Permittee

By   
NAME: Rowaida Jadan  
TITLE: Associate Engineer

**NOTE: Notary acknowledgments  
must be attached per Civil Code  
section 1189 et seq.**

DEVELOPMENT SERVICES RESOLUTION NO. CM 6712  
SITE DEVELOPMENT PERMIT NO. 1924573  
**NORTH UNIVERSITY FIRE STATION NO. 50 PROJECT NO. 463835 [MMRP]**

WHEREAS, City of San Diego Public Works Department, Owner/Permittee, filed an application with the City of San Diego for a permit to construct a new three story 16,077 square foot fire station including a workshop, vestibule, watch room, exterior patio, and associated components. The project also includes an apparatus bay with three "slots" for storage of the fire engines and ambulances; a 14-space parking lot with gated entry; a storage area for a fuel tank, generator, and transformer; a trash enclosure; and landscaping/signage within Environmentally Sensitive Lands. The project also includes a Multiple Species Conservation Program, Multiple Habitat Planning Area (MSCP/MHPA) Boundary Line Adjustment (BLA) (as described in and by reference in the approved discretionary documents which comprise Exhibit "A" and corresponding conditions of approval for the associated Permit No. 1924573, the 0.94 acre development is located on the extreme western portion of a 92.234 acre parcel;

WHEREAS, the project site is located at 75441/2 Toscana Drive, Southeast corner of Noble Drive and Shoreline Drive (APN 345-011-24-00) in the RS 1-14 (Residential Single Family) zone of the University Community Plan;

WHEREAS, the project site is legally described as a Portion of Pueblo Lot 1304 of the Pueblo Lands of San Diego, in the City of San Diego, County of San Diego, State of California, According to map thereof made by James Pascoe in 1870, A Copy of which map was filed in the office of San Diego County Recorder, November 14, 1921 and Misc. Map No 36;

WHEREAS, on October 4, 2017, the Development Services Department of the City of San Diego considered Site Development Permit No. 1924573, pursuant to the Land Development Code of the City of San Diego;

NOW, THEREFORE, BE IT RESOLVED by the Development Services Department of the City of San Diego as follows:

That the Development Services Department adopts the following written Findings, dated October 4, 2017.

FINDINGS:

**Site Development Permit Section 126.0504 (a)**

- 1. The proposed development will not adversely affect the applicable land use plan.** The North University City Fire Station project is considered an essential public project. The project is consistent with the General Plan's and the University Community Plan's Land Use designation. The project site is located within a developed residential neighborhood and surrounded by similar residential development on three sides and areas of open-space to the east. The University Community Plan states "Additional public safety related facilities and services (e.g., police, fire, and emergency medical response) should be provided to assure

levels of service standards are attained for existing development and as development occurs. New facilities should have good vehicular access and be carefully reviewed for environmental, land use and aesthetic impacts. Appropriate equipment and staffing should be assigned to the facilities to assure adequate response to the population and the structure types which may exist in the community.” The San Diego Fire Department examined the existing level of service and determined this would be the best location for both land use and access to ensure proper distribution of life safety service needs of the community in which it has been placed. The three-story fire station would accommodate 10 personnel and equipment in order to provide improved emergency response times that meets national standards within the North University City area. Therefore the project will not adversely affect the applicable land use plan.

- 2. The proposed development will not be detrimental to the public health, safety, and welfare.** The North University City Fire Station project is considered an essential public project. The San Diego Fire Department examined the existing level of service and determined this would be the best location for access which would ensure proper distribution and access of life safety service needs of the community in which it has been placed. The three-story fire station would accommodate 10 personnel and equipment which would provide improved emergency response times that meet the national standards within the North University City area. Therefore the project would not be detrimental, but support the public health and safety and welfare.
- 3. The proposed development will comply with the regulations of the Land Development Code including any allowable deviations pursuant to the Land Development Code.** The North University City Fire Station project is an essential public project. The site contains sensitive biological resources as defined by the City’s environmentally Sensitive Lands (ESL) regulations. The proposed fire station is sited on the extreme western portion of the 92.234 acre parcel along two existing roadways with an existing development adjacent to the parcel to the south. The building will be three stories tall to minimize the ground floor project footprint. Clearing of sensitive habitat during construction would impact biologically sensitive habitat, but required mitigation measures would avert direct impacts to sensitive species. The overall project footprint would impact 0.94 acres with impacts to 0.5 acres of sensitive vegetation communities (includes 0.12 acre of valley needlegrass grassland, 0.24 acre of Diegan coastal sage scrub (including disturbed), and 0.14 acre of non-native grassland). Per the California Environmental Quality Act (CEQA) Mitigated Negative Declaration (MND) required Mitigation Monitoring and Reporting Program (MMRP) mitigation for sensitive habitat impacts would occur at required ratios outlined in the 2012 Biological Guidelines in compliance with the City of San Diego’s Land Development Code. Additionally, the development would be sited in the least biologically sensitive area on the parcel adjacent to existing development and roadways, in a corner area that that contains significant amounts of ornamental vegetation and disturbed land. While the project placement reduces the overall potential impacts and impacts to sensitive species; due to ESL on-site, the project is required to obtain a Site Development Permit to ensure all regulations and controls are adhered to and the project will therefore comply with the regulations of the Land Development Code. In addition, a MHPA BLA was required for the project and is explained in detail in item (b) (4) below.

## (b) Supplemental Findings – Environmentally Sensitive Lands

- 1 The site is physically suitable for the design and siting of the proposed development and the development will result in minimum disturbance to environmentally sensitive lands.** The Fire Department had earmarked various locations within this parcel for a fire station, with the current site identified as early as 2003. The Department determined that the proposed location is the most suitable for the North University City Fire Station based on environmental factors outlined in above in Item 3 and fire station functionality factors discussed below. After determining additional need in the Community for adequate fire response and reviewing the availability of land in the vicinity of the coverage needed, the proposed location was chosen as it would provide acceptable/required response times; appropriate roadway level of service and ingress and egress accessibility, and adequate room to accommodate a crew of 10 firefighters and their fire and support equipment. The crew size and equipment necessitates the development of a 16,077-square-foot fire station including a workshop, vestibule, watch room, exterior patio, and associated components. The project would also include an apparatus bay with three “slots” for storage of the fire engines and ambulances; a 14-space parking lot with gated entry; a storage area for a fuel tank, generator, and transformer; a trash enclosure; and landscaping/signage.

The proposed fire station is sited on the extreme western portion of the 92.234 acre parcel along two existing roadways with an existing development to the south. The building will be three stories tall to minimize the overall structural project footprint. While there will be impacts to 0.42 acres of sensitive vegetation communities, these impacts will be mitigated, as outlined in finding (b) (6). Additionally, this development will be located in a corner of the parcel that contains significant amounts of ornamental vegetation and disturbed land which have no, or low biological value (per the Biological Survey Report for the North University City Fire Station 50 Project, RECON February 20, 2017).

The site is therefore physically suitable for the design and siting of the proposed development and the development will result in minimum disturbance to environmentally sensitive lands.

- 2. The proposed development will minimize the alteration of natural land forms and will not result in undue risk from geologic and erosional forces, flood hazards, or fire hazards.** The North University City Fire Station is an essential public project and will require grading land where the building and driveways are proposed, to: 1) ensure flat, level floors and driveways, for the fire station to function as a habitable building, and 2) to ensure that storm water drains away from the building. Ninyo & Moore Geotechnical and Environmental Sciences Consultants has prepared a geotechnical evaluation of the project which analyzed the geotechnical conditions of the subject site. The study included review of background data, subsurface evaluation, and laboratory testing and resulted in objective recommendations for the building design and project earthwork. The report concluded that the potential for liquefaction, seismically induced settlement, tsunami, and flooding would be less than significant and would not require specific design considerations.

The report determined that while there was evidence of landslides nearby, the project site itself is underlain by competent materials of the Scripps formation that do not exhibit evidence of land-sliding. The report determined that lurching and cracking of the ground surface as a result of nearby seismic events was possible and appropriate protective features were incorporated into the design and construction elements of the project.

The project would incorporate recommendations from technical reports and City Staff review and as shown on the Exhibit A plans, the building would meet the 2013 California Building Code and all applicable City and County of San Diego codes and ordinances, and therefore will not be subject to undue risk from alteration of natural land, geologic and erosional forces, flood hazards, or fire hazards.

- 3. The proposed development will be sited and designed to prevent adverse impacts on any adjacent environmentally sensitive lands.** The North University City Fire Station project is an essential public project that requires direct access to streets, and space to park, maintain, and prepare fire and rescue vehicles. The fire station also needs space for fire fighters to reside, and for other fire department staff to work, during their shifts. The building will have three stories.

RECON prepared the Noise Analysis for the North University Fire Station 50 Project, San Diego California (2017). This report noted that project-generated traffic would contribute to less than a decibel increase in "A" weighted CNEL noise levels of the adjacent roadways, and that this increase would be less than perceptible. Also, noise associated with emergency responses such as fire engine and ambulance sirens is exempted from noise standards in the Noise Ordinance (Municipal Code Section 59.5.0402[b]). Therefore the project is not considered to present a significant noise impact on the adjacent environmentally sensitive lands.

The proposed project will adhere to all MHPA Land Use Adjacency Guidelines including reducing impacts from lighting, grading, stormwater runoff, brush management, noise and access to the MHPA per the MMRP requirements in Final MND No. 463835. Project lighting will be shielded and/or directed away from the MHPA. Placement and use of project lighting will accommodate the habits of nocturnal species that prefer to move and forage in darkness. Storm water will be retained on-site, and dissipated and filtered prior to release.

The Fire station will be located adjacent to the Nobel Drive and Shoreline Drive for easy and quick access to the City system of roads. Locating the project in the far western extent of the parcel also minimizes the project impact on ESL by keeping the remaining contiguous sensitive habitat intact.

This area of the parcel contains Diegan Coastal Sage Scrub, Disturbed Diegan Coastal Sage Scrub, Disturbed Land, Valley Needlegrass Grassland, Non-native Grassland, Ornamental Plantings, Southern Mixed Chaparral, and Southern Willow Scrub. The project mitigate for the environmentally sensitive lands according to the regulations of the Land Development Code Biology Guidelines, as identified in the project biological technical report, and as listed in finding (b)6, below.

City of San Diego Development Services Department, and Planning Department reviewers from various disciplines (Environmental Analysis, Permit Planning, Landscaping, and the Multiple Species Conservation Program) provided input on the project's design. Project proponents also met with staff from California Department of Fish & Wildlife and United States Fish & Wildlife Department to solicit feedback and gain approval of the project's MHPA boundary line adjustment (BLA). The proposed project reflects the input and requirements from these reviewers and the approved BLA is incorporated by reference and discussed in more detail in Item (b)(4) below (RECON and City Planning, September 26, 2017).

Features of figures on Page 59 and 61 of Final MND No. 463835 are incorporated by reference as project requirements to be carried out for the MHPA BLA and restoration and revegetation components of the project.

Therefore the proposed development will be sited and designed to prevent adverse impacts to adjacent environmentally sensitive lands.

- 4. The proposed development will be consistent with the City of San Diego's Multiple Species Conservation Program (MSCP) Subarea Plan.** The project site is within the existing boundaries of both the City of San Diego's MSCP Subarea, and a Multi-Habitat Planning Area. The project would cause direct impacts to 0.816 acres within the current boundaries of the MHPA. This encroachment amount on the 92 acre parcel would normally fall within the 30 percent encroachment allowance for an essential public facility on a premise containing MHPA pursuant to the City of San Diego Land Development Code.; In this case, however; existing development approved prior to enacting of ESL Regulations resulted in BLA requirement for the project. On September 26, 2017, a "Multi-Habitat Planning Area Boundary Line Adjustment Equivalency Analysis for the North University City Fire Station 50 Project (RECON and City MSCP Planning, September 26, 2017) was approved by the City and Wildlife Agencies and is incorporated by reference here. The required project BLA consists of a 1.95:1 "give to take" ratio, which includes subtracting 0.816-acre from the MHPA and adding 1.011-acres to the MHPA, for a net MHPA area increase of 0.197 acre. The BLA also requires 0.582 acre of native grassland/coastal sage scrub restoration and revegetation. The BLA requirements are additive to the project's required CEQA biological resource mitigation. As a result, the approved BLA is anticipated to have an overall net beneficial effect on the MHPA layout, and MSCP covered species and habitats.

Although the fire station is an essential public facility and is considered a compatible land use within the MHPA per Section 1.4.1 of the MSCP Subarea Plan (City of San Diego 1997); the BLA will reconfigure the MHPA boundary to remove the development area of Fire Station 50 project site outside the MHPA.

The fire station project complies with Section 1.4.2 of the MSCP Subarea Plan which outlines general planning and design guidelines for utility projects as they relate to the MHPA. The *relevant guidelines* and project components to address them are summarized and addressed as follows:

Roads and Utilities- Construction and Maintenance Policies

- a) *All proposed utility lines should be designed to avoid or minimize intrusion into the MHPA.*

The project was designed to be situated in the northwest corner of the lot, along two existing roadways, and in such a way that minimized intrusion into the MHPA.

- b) *All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts.*

The project was designed to be situated in the northwest corner of the lot, along two existing roadways, and in such a way that minimized intrusion into the MHPA.

- c) *Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable.*

The project does not include any temporary roads or staging areas outside the assessed permanent impact footprint. Thus it would impact the minimum area feasible.

- d) *Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage.*

According to the "Biological Survey Report for the North University City Fire Station 50 Project, San Diego, California," the project is located outside regional wildlife corridors and therefore would not disrupt corridor usage.

- e) *Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads.*

The project is located at the intersection of Shoreline Drive and Nobel Drive and proposes driveway access to both, and therefore does not propose any additional roads.

- f) *Development of roads in canyon bottoms should be avoided whenever feasible.*

The project is not situated in a canyon bottom and therefore avoids development of such roads.

- g) *Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas.*

The project does not propose any new roads, but rather includes short driveways to two existing roads.

- h) *For the most part, existing roads and utility lines are considered a compatible use within the MHPA and therefore will be maintained.*

The project would utilize existing roads outside the MHPA and any existing utility lines that will be utilized will be, maintained in accordance with current required standards.

Fencing, Lighting, and Signage

- a) *Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent land uses compatible with the MHPA.*

The proposed fire station would be fenced to provide protection for the equipment and facilities within the station, but also to provide a barrier to unauthorized access to the habitat within the surrounding MHPA.

b) *Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife.*

Project lighting would be shielded and/or directed away from the MHPA. Placement and use of project lighting will accommodate the habits of nocturnal species that prefer to move and forage in darkness.

c) *Signage will be limited to access and litter control and educational purposes.*

The project would include only minimal signage. Signage for the fire station would be used to identify the fire station and any regulations associated with it. Signage may also be used to limit access to the MHPA and revegetation/restoration areas outlined in Exhibit "A".

Materials Storage

a) *Prohibit storage of materials (e.g. hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any area that may impact the MHPA, especially do to potential leakage.*

The proposed fire station will store large equipment and potentially hazardous materials; however these equipment and materials would be maintained and controlled in accordance with current safety regulations. No hazardous materials or equipment would be allowed to encroach into the surrounding habitat and MHPA.

Since the North University Fire Station project is an essential public project and is consistent with each of these Design Guidelines for Road and Utilities, the project is consistent with the City of San Diego's Multiple Habitat Planning Area Subarea Plan.

While the Fire Station development area will be removed from the MHPA, it will still about it therefore compliance with all MHPA Land Use Adjacency Guidelines per Section 1.4.3 of the MSCP Subarea Plan are required. Compliance will be achieved via implementation of the required mitigation monitoring and reporting measures (MMRP) outlined in the project CEQA document, Final MND No. 463835 incorporated by reference and attachment here.

- 5. The proposed development will not contribute to the erosion of public beaches or adversely impact local shoreline sand supply.** The North University Fire Station construction project is located approximately three miles from the nearest beach or local shoreline. The project will provide a Water Pollution Control Plan which will control the runoff from the developed site. This plan will include requirements for site design, source control storm water best management practices (BMP's), and treatment control BMP's. The project will not result in increased amounts of pollutants draining into the ocean because construction and permanent storm water best management practices will be implemented to collect and treat runoff from the project for pollutants as required by the current City of San Diego Storm Water Standards. The project is compliant with the regulations within the City's Storm Water Standards and consistent with the City's Storm Water Design Manual.

Therefore the proposed improvements will not contribute to the erosion of public beaches or adversely impact local shoreline sand supply.

- 6. The nature and extent of mitigation required as a condition of the permit is reasonably related to, and calculated to alleviate, negative impacts created by the proposed development.** The City of San Diego conducted an Initial Study which determined that the proposed project would have potentially significant environmental effects to biological, archaeological, and paleontological resources. The impacts outlined in the project description and initial study are mitigated by required compliance with the Mitigation Monitoring and Reporting Program outlined in MND No. 463835 and incorporated here by reference and attachment. In addition, the requirements of the approved "Multi-Habitat Planning Area Boundary Line Adjustment Equivalency Analysis for the North University City Fire Station 50 Project (RECON and City MSCP Planning, September 26, 2017) will mitigate all impacts to the MHPA and are incorporated by reference here and summarized in Figure 3 on page 59 of the Final MND No. 463835.

Clearing of sensitive habitat during construction would impact the habitat of sensitive biological species and MHPA BLA requirements mandate restoration and revegetation of habitat on-site per Exhibit 4 on page 61 of Final MND No. 463835. The Final MND, MMRP also incorporates the requirements of the "Restoration and Revegetation Plan for the North City University City Fire Station 50 Project" (RECON, September 14, 2017) and this document is incorporated by reference in this resolution.

Clearing of vegetation during breeding season could impact the breeding of nesting birds. If construction cannot avoid the general avian and raptor breeding season (February 1 to September 15), a preconstruction survey for active raptor and migratory bird nests protected under MBTA and/or CA Fish and Wildlife Code will be conducted within the project site, within 10 calendar days prior to the start of construction activities, including removal of vegetation. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable State and Federal Law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) will be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided.

Construction could result in runoff that would drain into sensitive biological habitat. The project will provide a Water Pollution Control Plan which will control the runoff. This plan will include requirements for site design, source control storm water best management practices (BMP's), and treatment control BMP's.

Construction will require the clearance of land that will not be covered by new structures (i.e. Zone 1 landscaping areas). Leaving earth uncovered could leave the area susceptible to erosion, so this project will mitigate this possibility by implementing its landscape, restoration and revegetation plans. These plans has been accepted Development Services and Planning Departments and to be consistent with the City's Municipal Code and Biology Guidelines.

Construction would require excavation in areas that could contain archaeological resources, including Native American historical resources. Qualified Archaeological monitor(s) (including a Native American monitor) will monitor all construction excavation that they determine could result in impacts to archaeological resources, including Native American resources. In the event of a discovery, the archaeology monitors will document the findings. Work would be diverted to another part of the project, until the monitors determine whether the find is significant, and curate the find as needed pursuant to CEQA guidelines 15064.5. Per section II.E.2. of the City of San Diego Historic Resources Guidelines, any archaeological data recovery program will be based on a written research design and will be subject to the provisions outlined in CEQA Section 21083.2. The monitors will determine when work can proceed.

Construction would require excavation in an area which could contain paleontological resources. A qualified Paleontology monitor will monitor all construction excavation that they determine could result in impacts to formations with high and/or moderate resource sensitivity. In the event of a discovery, the paleontologist would document the finding, and work would be diverted to another part of the project, until the monitor determines whether the find is significant. The paleontologist will determine whether the find should be curated, and when work can proceed in the area of the discovery.

A Mitigation, Monitoring and Reporting Program has been prepared based on the final project in which all foreseeable impacts have been addressed, therefore, the nature and extent of mitigation required as a condition of the permit is reasonably related to, and calculated to alleviate negative impacts created by the proposed development.

BE IT FURTHER RESOLVED that, based on the findings hereinbefore adopted by the Development Services Department Site Development Permit No. 1924573 is hereby GRANTED by the Development Services Department to the referenced Owner/Permittee, in the form, exhibits, terms and conditions as set forth in Permit No. 1924573, a copy of which is attached hereto and made a part hereof.



Helene Deisher  
Development Project Manager  
Development Services

Adopted on: October 4, 2017

WBS NO. S-13021.02.06

N. UNIVERSITY FIRE STATION NO. 50 SDP PROJECT  
MITIGATED NEGATIVE DECLARATION NO. 463835  
AND  
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

ADOPTED ON OCTOBER 5, 2017

WHEREAS, on January 12, 2016, The City of San Diego Public Works Department submitted a Site Development Permit application to the Development Services Department for the N. University Fire Station No. 50 SDP (Project) at the southeast corner of Noble Drive and Shoreline Drive (APN: 345-011-24-00); and

WHEREAS, the matter was considered without a public hearing by the Deputy Director of the Development Services Department as designated by the City Manager of the City of San Diego on October 5, 2017; and

WHEREAS, the Deputy Director of the Development Services Department as designated by the City Manager considered the issues discussed in Mitigated Negative Declaration No. 463835 (Declaration) prepared for this Project; NOW THEREFORE,

BE IT RESOLVED, by the Deputy Director for the Development Services Department as designated by the City Manager that it is certified that the Declaration has been completed in compliance with the California Environmental Quality Act of 1970 (CEQA) (Public Resources Code Section 21000 et seq.), as amended, and the State CEQA Guidelines thereto (California Code of Regulations, Title 14, Chapter 3, Section 15000 et seq.), that the Declaration reflects the independent judgment of the City of San Diego as Lead Agency and that the information contained in said Declaration, together with any comments received during the public review process, has been reviewed and considered by the Director of the Department of Development Services as designated by the City Manager in connection with the approval of the Project.

BE IT FURTHER RESOLVED, that the Deputy Director of the Department of Development Services finds on the basis of the entire record that project revisions now mitigate potentially significant effects on the environment previously identified in the Initial Study, that there is no

substantial evidence that the Project will have a significant effect on the environment, and, therefore, that said Declaration is hereby adopted.

BE IT FURTHER RESOLVED, that pursuant to CEQA Section 21081.6, the Deputy Director of the Department of Development Services as designated by the City Manager hereby adopts the Mitigation Monitoring and Reporting Program, or alterations to implement the changes to the Project in order to mitigate or avoid significant effects on the environment, which is attached hereto as Exhibit A.

BE IT FURTHER RESOLVED, that the Declaration and other documents constituting the record of proceedings upon which the approval is based are available to the public at the office of the Development Services Department, 1222 First Avenue, San Diego, CA 92101.

BE IT FURTHER RESOLVED, that Development Services Staff is directed to file a Notice of Determination with the Clerk of the Board of the Supervisors for the County of San Diego regarding the project.

APPROVED: Kerry Santoro, Deputy Director, Development Services Department

By: 

Date: October 5, 2017

ATTACHMENT: Exhibit A: Mitigation Monitoring and Reporting Program

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## EXHIBIT A

### MITIGATION MONITORING AND REPORTING PROGRAM N. UNIVERSITY CITY FIRE STATION NO. 50 SDP PROJECT PROJECT NO. 463835

This Mitigation Monitoring and Reporting Program is designed to ensure compliance with Public Resources Code Section 21081.6 during implementation of mitigation measures. This program identifies at a minimum: the department responsible for the monitoring, what is to be monitored, how the monitoring shall be accomplished, the monitoring and reporting schedule, and completion requirements. A record of the Mitigation Monitoring and Reporting Program will be maintained at the offices of the Development Services Department, 1222 First Avenue, Fifth Floor, San Diego, CA, 92101.

#### A. GENERAL REQUIREMENTS – PART I Plan Check Phase (prior to permit issuance)

1. Prior to the issuance of a Notice To Proceed (NTP) for a subdivision, or any construction permits, such as Demolition, Grading or Building, or beginning any construction related activity on-site, the Development Services Department (DSD) Director's Environmental Designee (ED) shall review and approve all Construction Documents (CD), (plans, specification, details, etc.) to ensure the MMRP requirements are incorporated into the design.

2. In addition, the ED shall verify that the MMRP Conditions/Notes that apply ONLY to the construction phases of this project are included VERBATIM, under the heading, "**ENVIRONMENTAL/MITIGATION REQUIREMENTS.**"

3. These notes must be shown within the first three (3) sheets of the construction documents in the format specified for engineering construction document templates as shown on the City website:

<http://www.sandiego.gov/development-services/industry/standtemp.shtml>

4. The **TITLE INDEX SHEET** must also show on which pages the "Environmental/Mitigation Requirements" notes are provided.

5. **SURETY AND COST RECOVERY** – The Development Services Director or City Manager may require appropriate surety instruments or bonds from private Permit Holders to ensure the long term performance or implementation of required mitigation measures or programs. The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.

#### B. GENERAL REQUIREMENTS – PART II Post Plan Check (After permit issuance/Prior to start of construction)

1. **PRE CONSTRUCTION MEETING IS REQUIRED TEN (10) WORKING DAYS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.** The PERMIT HOLDER/OWNER is responsible to arrange and perform this meeting by contacting the CITY RESIDENT ENGINEER (RE) of the Field Engineering Division and

**ORIGINAL**

City staff from MITIGATION MONITORING COORDINATION (MMC). Attendees must also include the Permit holder's Representative(s), Job Site Superintendent and the following consultants:

***Qualified Biologist or Biological Monitor, Qualified Archaeologist, Native American Monitor, Qualified Paleontologist***

**Note:**

**Failure of all responsible Permit Holder's representatives and consultants to attend shall require an additional meeting with all parties present.**

CONTACT INFORMATION:

- a) The PRIMARY POINT OF CONTACT is the RE at the **Field Engineering Division – 858-627-3200**
- b) For Clarification of ENVIRONMENTAL REQUIREMENTS, it is also required to call **RE and MMC at 858-627-3360**

**2. MMRP COMPLIANCE:** This Project, Project Tracking System (PTS) # 463835 and /or Environmental Document # 463835, shall conform to the mitigation requirements contained in the associated Environmental Document and implemented to the satisfaction of the DSD's Environmental Designee (MMC) and the City Engineer (RE). The requirements may not be reduced or changed but may be annotated (i.e. to explain when and how compliance is being met and location of verifying proof, etc.). Additional clarifying information may also be added to other relevant plan sheets and/or specifications as appropriate (i.e., specific locations, times of monitoring, methodology, etc.

**Note:**

**Permit Holder's Representatives must alert RE and MMC if there are any discrepancies in the plans or notes, or any changes due to field conditions. All conflicts must be approved by RE and MMC BEFORE the work is performed.**

**3. OTHER AGENCY REQUIREMENTS:** Evidence of compliance with all other agency requirements or permits shall be submitted to the RE and MMC for review and acceptance prior to the beginning of work or within one week of the Permit Holder obtaining documentation of those permits or requirements. Evidence shall include copies of permits, letters of resolution or other documentation issued by the responsible agency.

***None***

**4. MONITORING EXHIBITS**

All consultants are required to submit , to RE and MMC, a monitoring exhibit on a 11x17 reduction of the appropriate construction plan, such as site plan, grading, landscape, etc., marked to clearly show the specific areas including the **LIMIT OF WORK**, scope of that discipline's work, and notes indicating when in the construction schedule that work will be performed. When necessary for clarification, a detailed methodology of how the work will be performed shall be included.

**NOTE:**

**Surety and Cost Recovery – When deemed necessary by the Development Services Director or City Manager, additional surety instruments or bonds from the private Permit Holder may be**

**ORIGINAL**

**required to ensure the long term performance or implementation of required mitigation measures or programs. The City is authorized to recover its cost to offset the salary, overhead, and expenses for City personnel and programs to monitor qualifying projects.**

**5. OTHER SUBMITTALS AND INSPECTIONS:**

The Permit Holder/Owner’s representative shall submit all required documentation, verification letters, and requests for all associated inspections to the RE and MMC for approval per the following schedule:

<b>Table 1 - Document Submittal/Inspection Checklist</b>		
<b>Issue Area</b>	<b>Document Submittal/Task</b>	<b>Associated Inspection/Approvals/Notes</b>
General	Contribution to the City of San Diego Habitat Acquisition Fund (HAF) plus a ten percent (10%) administrative fee.	Prior to the issuance of any Construction Permits
General	Consultant Qualification Letters	Prior to Preconstruction Meeting
General	Consultant Construction Monitoring Exhibits	Prior to or at Preconstruction Meeting
Archaeology	Archeological Reports	Archeology Site Observation
Paleontology	Paleontology Reports	Paleontology Site Observation
Biological Resources	Biological Construction Mitigation/Monitoring Exhibit (BCME)	Approval by MMC
Biological Resources	Avian Protection - Pre-construction survey	Within 10 Calendar Days prior to the start of construction activities (including removal of vegetation)
Biological Resources	Limit of Work Verification Letter	Prior to Construction Activities
Biological Resources	Resource Delineation	Prior to Construction Activities
Biological Resources	Education	Prior to commencement of Construction Activities
Biological Resources	Consultant Site Visit Record (CSVR)	Monitoring During Construction
Biological Resources	Final BCME/Report	Within 30 days of Construction Completion
Restoration	Est. - MMC inspection	Prior to starting work
Restoration	Est. - Qualitative Inspection -	Bi-weekly for first month; monthly

**ORIGINAL**

	MMC	thereafter
Restoration	Year 1 - Qualitative Inspection - MMC	Monthly for first 3 Months; quarterly thereafter
Restoration	Year 2 - Qualitative Inspection - MMC	Quarterly
Restoration	Year 3 - Qualitative Inspection - MMC	Quarterly
Restoration	Year 4 - Qualitative Inspection - MMC	Quarterly
Restoration	Year 5 - Qualitative Inspection - MMC	Quarterly
Restoration	Year 1 - Quantitative Inspection - MMC	Once During Spring Season
Restoration	Year 2 - Quantitative Inspection - MMC	Once During Spring Season
Restoration	Year 3 - Quantitative Inspection - MMC	Once During Spring Season
Restoration	Year 4 - Quantitative Inspection - MMC	Once During Spring Season
Restoration	Year 5 - Quantitative Inspection - MMC	Once During Spring Season
Restoration	Est. - Weed Control	Monthly or as Needed
Restoration	Year 1 - Weed Control	Quarterly or as Needed
Restoration	Year 2 - Weed Control	Quarterly
Restoration	Year 3 - Weed Control	Quarterly
Restoration	Year 4 - Weed Control	Quarterly
Restoration	Year 5 - Weed Control	Once
Restoration	Est. - Horticulture Treatment	As Needed
Restoration	Year 1 - Horticulture Treatment	As Needed
Restoration	Year 2 - Horticulture Treatment	As Needed
Restoration	Year 3 - Horticulture Treatment	As Needed
Restoration	Est. - Erosion Control	As Needed
Restoration	Est. - Trash Removal	Monthly or as Needed
Restoration	Year 1 - Trash Removal	Quarterly or as Needed
Restoration	Year 2 - Trash Removal	Quarterly
Restoration	Year 3 - Trash Removal	Quarterly
Restoration	Year 4 - Trash Removal	Quarterly
Restoration	Year 5 - Trash Removal	Quarterly
Restoration	Est. - Replacement Planting and Seeding	As Needed
Restoration	Year 1 - Replacement Planting and Seeding	Fall
Restoration	Year 2 - Replacement Planting and Seeding	Fall
Restoration	Est. - Site Protection and Signage	As Needed

**ORIGINAL**

Restoration	Year 1 - Site Protection and Signage	As Needed
Restoration	Year 2 - Site Protection and Signage	As Needed
Restoration	Year 3 - Site Protection and Signage	As Needed
Restoration	Year 4 - Site Protection and Signage	As Needed
Restoration	Year 5 - Site Protection and Signage	As Needed
Restoration	Est. - Vandalism	As Needed
Restoration	Year 1 - Vandalism	As Needed
Restoration	Year 2 - Vandalism	As Needed
Restoration	Year 3 - Vandalism	As Needed
Restoration	Year 4 - Vandalism	As Needed
Restoration	Year 5 - Vandalism	As Needed
Restoration	Est. Irrigation Maintenance	As Needed - Directed by Project Biologist/Maint. By City
Restoration	Year 1 - Irrigation Maintenance	As Needed - Directed by Project Biologist/Maint. By City
Restoration	Year 2 - Irrigation Maintenance	As Needed - Directed by Project Biologist/Maint. By City
Final inspection	Request for Final inspection	1 week after request
Bond Release	Request for a Bond Release Letter	Final MMRP Inspections Prior to Bond Release Letter

**C. SPECIFIC MMRP ISSUE AREA CONDITIONS/REQUIREMENTS**

**HISTORICAL RESOURCES (ARCHAEOLOGY)**

**I. Prior to Permit Issuance or Bid Opening/Bid Award**

**A. Entitlements Plan Check**

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

**B. Letters of Qualification have been submitted to ADD**

1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (HRG). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the

**ORIGINAL**

qualifications established in the HRG.

3. Prior to the start of work, the applicant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

## **II. Prior to Start of Construction**

### **A. Verification of Records Search**

1. The PI shall provide verification to MMC that a site specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
3. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius.

### **B. PI Shall Attend Precon Meetings**

1. Prior to beginning any work that requires monitoring; the Applicant shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.
  - a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

### **2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)**

The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.

### **3. Identify Areas to be Monitored**

Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.

The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).

MMC shall notify the PI that the AME has been approved.

### **4. When Monitoring Will Occur**

- a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
- b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction

documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.

5. Approval of AME and Construction Schedule

After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

### III. During Construction

#### A. Monitor Shall be Present During Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.**
2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.
3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.
4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVSR). The CSVSR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly **(Notification of Monitoring Completion)**, and in the case of ANY discoveries. The RE shall forward copies to MMC.

#### B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

#### C. Determination of Significance

**ORIGINAL**

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
    - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
    - b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM and RE. ADRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume.
 

**Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**

      - (1). Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
    - c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.
      - (1). Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.
      - (2). Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.
- D. Discovery Process for Significant Resources - Pipeline Trenching and other Linear Projects in the Public Right-of-Way
- The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:
1. Procedures for documentation, curation and reporting
    - a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.
    - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
    - c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines. The DPR forms shall be submitted to

**ORIGINAL**

the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.

- d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

#### IV. **Discovery of Human Remains**

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

##### A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

##### B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

##### C. If Human Remains **ARE** determined to be Native American

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.
3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
  - a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being notified by the Commission, OR;
  - b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, THEN
  - c. To protect these sites, the landowner shall do one or more of the following:

**ORIGINAL**

- (1) Record the site with the NAHC;
  - (2) Record an open space or conservation easement; or
  - (3) Record a document with the County.
  - d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.
- D. If Human Remains are **NOT** Native American
- 1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
  - 2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
  - 3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, the applicant/landowner, any known descendant group, and the San Diego Museum of Man.

**V. Night and/or Weekend Work**

- A. If night and/or weekend work is included in the contract
- 1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
  - 2. The following procedures shall be followed.
    - a. No Discoveries  
In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSV and submit to MMC via fax by 8AM of the next business day.
    - b. Discoveries  
All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.
    - c. Potentially Significant Discoveries  
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.
    - d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
- 1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.

**ORIGINAL**

2. The RE, or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

## VI. Post Construction

### A. Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. **It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.**
  - a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
  - b. Recording Sites with State of California Department of Parks and Recreation  
The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.
2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
4. MMC shall provide written verification to the PI of the approved report.
5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

### B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

### C. Curation of artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV –

**ORIGINAL**

- Discovery of Human Remains, Subsection C.
- 3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
- 4. The RE or BI, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
- 5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
  - 1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.
  - 2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

## **PALEONTOLOGICAL RESOURCES**

### **I. Prior to Permit Issuance or Bid Opening/Bid Award**

- A. Entitlements Plan Check
  - 1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Assistant Deputy Director (ADD) Environmental designee shall verify that the requirements for Paleontological Monitoring have been noted on the appropriate construction documents.
- B. Letters of Qualification have been submitted to ADD
  - 1. Prior to Bid Award, the applicant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the paleontological monitoring program, as defined in the City of San Diego Paleontology Guidelines.
  - 2. MMC will provide a letter to the applicant confirming the qualifications of the PI and all persons involved in the paleontological monitoring of the project.
  - 3. Prior to the start of work, the applicant shall obtain approval from MMC for any personnel changes associated with the monitoring program.

### **II. Prior to Start of Construction**

- A. Verification of Records Search
  - 1. The PI shall provide verification to MMC that a site specific records search has been completed. Verification includes, but is not limited to a copy of a confirmation letter from San Diego Natural History Museum, other institution or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
  - 2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
- B. PI Shall Attend Precon Meetings
  - 1. Prior to beginning any work that requires monitoring, the Applicant shall arrange a Precon Meeting that shall include the PI, Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified paleontologist shall attend any grading/excavation related Precon

Meetings to make comments and/or suggestions concerning the Paleontological Monitoring program with the Construction Manager and/or Grading Contractor.

- a. If the PI is unable to attend the Precon Meeting, the Applicant shall schedule a focused Precon Meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.
2. Acknowledgement of Responsibility for Curation (CIP or Other Public Projects)  
The applicant shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the paleontological monitoring program.
3. Identify Areas to be Monitored
  - a. Prior to the start of any work that requires monitoring, the PI shall submit a Paleontological Monitoring Exhibit (PME) based on the appropriate construction documents (reduced to 11x17) to MMC for approval identifying the areas to be monitored including the delineation of grading/excavation limits. Monitoring shall begin at depths below 10 feet from existing grade or as determined by the PI in consultation with MMC. The determination shall be based on site specific records search data which supports monitoring at depths less than ten feet.
  - b. The PME shall be based on the results of a site specific records search as well as information regarding existing known soil conditions (native or formation).
  - c. MMC shall notify the PI that the PME has been approved.
4. When Monitoring Will Occur
  - a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.
  - b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents which indicate conditions such as depth of excavation and/or site graded to bedrock, presence or absence of fossil resources, etc., which may reduce or increase the potential for resources to be present.
5. Approval of PME and Construction Schedule  
After approval of the PME by MMC, the PI shall submit to MMC written authorization of the PME and Construction Schedule from the CM.

### III. During Construction

- A. Monitor Shall be Present During Grading/Excavation/Trenching
  1. The monitor shall be present full-time during grading/excavation/trenching activities including, but not limited to mainline, laterals, jacking and receiving pits, services and all other appurtenances associated with underground utilities as identified on the PME that could result in impacts to formations with high and/or moderate resource sensitivity. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the PME.**
  2. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as trenching activities that do not encounter formational soils as previously assumed, and/or

**ORIGINAL**

when unique/unusual fossils are encountered, which may reduce or increase the potential for resources to be present.

3. The monitor shall document field activity via the Consultant Site Visit Record (CSVSR). The CSVSR's shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

**B. Discovery Notification Process**

1. In the event of a discovery, the Paleontological Monitor shall direct the contractor to temporarily divert trenching activities in the area of discovery and immediately notify the RE or BI, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.

**C. Determination of Significance**

1. The PI shall evaluate the significance of the resource.
  - a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required. The determination of significance for fossil discoveries shall be at the discretion of the PI.
  - b. If the resource is significant, the PI shall submit a Paleontological Recovery Program (PRP) and obtain written approval of the program from MMC, MC and/or RE. PRP and any mitigation must be approved by MMC, RE and/or CM before ground disturbing activities in the area of discovery will be allowed to resume.
    - (1). Note: For pipeline trenching projects only, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."
  - c. If resource is not significant (e.g., small pieces of broken common shell fragments or other scattered common fossils) the PI shall notify the RE, or BI as appropriate, that a non-significant discovery has been made. The Paleontologist shall continue to monitor the area without notification to MMC unless a significant resource is encountered.
  - d. The PI shall submit a letter to MMC indicating that fossil resources will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that no further work is required.
    - (1). Note: For Pipeline Trenching Projects Only. If the fossil discovery is limited in size, both in length and depth; the information value is limited and there are no unique fossil features associated with the discovery area, then the discovery should be considered not significant.
    - (2). Note, for Pipeline Trenching Projects Only: If significance cannot be determined, the Final Monitoring Report and Site Record shall identify the discovery as Potentially Significant.

**D. Discovery Process for Significant Resources - Pipeline Trenching Projects**

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities including but not limited to excavation

for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance.

1. Procedures for documentation, curation and reporting
  - a. One hundred percent of the fossil resources within the trench alignment and width shall be documented in-situ photographically, drawn in plan view (trench and profiles of side walls), recovered from the trench and photographed after cleaning, then analyzed and curated consistent with Society of Invertebrate Paleontology Standards. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact and so documented.
  - b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.
  - c. The PI shall be responsible for recording (on the appropriate forms for the San Diego Natural History Museum) the resource(s) encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines. The forms shall be submitted to the San Diego Natural History Museum and included in the Final Monitoring Report.
  - d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

#### **IV. Night and/or Weekend Work**

- A. If night and/or weekend work is included in the contract
  1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
  2. The following procedures shall be followed.
    - a. No Discoveries  
In the event that no discoveries were encountered during night and/or weekend work, The PI shall record the information on the CSVR and submit to MMC via the RE via fax by 8AM on the next business day.
    - b. Discoveries  
All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction.
    - c. Potentially Significant Discoveries  
If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction shall be followed.
    - d. The PI shall immediately contact the RE and MMC, or by 8AM on the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.
- B. If night and/or weekend work becomes necessary during the course of construction
  1. The Construction Manager shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.
  2. The RE, or BI, as appropriate, shall notify MMC immediately.
- C. All other procedures described above shall apply, as appropriate.

#### **V. Post Construction**

- A. Preparation and Submittal of Draft Monitoring Report
  1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Paleontological Guidelines which describes the

**ORIGINAL**

results, analysis, and conclusions of all phases of the Paleontological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring,

- a. For significant paleontological resources encountered during monitoring, the Paleontological Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.
  - b. Recording Sites with the San Diego Natural History Museum  
The PI shall be responsible for recording (on the appropriate forms) any significant or potentially significant fossil resources encountered during the Paleontological Monitoring Program in accordance with the City's Paleontological Guidelines, and submittal of such forms to the San Diego Natural History Museum with the Final Monitoring Report.
2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
  3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
  4. MMC shall provide written verification to the PI of the approved report.
  5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.
- B. Handling of Fossil Remains
1. The PI shall be responsible for ensuring that all fossil remains collected are cleaned and catalogued.
- C. Curation of artifacts: Deed of Gift and Acceptance Verification
1. The PI shall be responsible for ensuring that all fossil remains associated with the monitoring for this project are permanently curated with an appropriate institution.
  2. The PI shall submit the Deed of Gift and catalogue record(s) to the RE or BI, as appropriate for donor signature with a copy submitted to MMC.
  3. The RE or BI, as appropriate shall obtain signature on the Deed of Gift and shall return to PI with copy submitted to MMC.
  4. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.
- D. Final Monitoring Report(s)
1. The PI shall submit two copies of the Final Monitoring Report to MMC (even if negative), within 90 days after notification from MMC of the approved report.
  2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution.

## **BIOLOGICAL RESOURCE PROTECTION DURING CONSTRUCTION**

### **I. Prior to Construction**

- A. **Biologist Verification** - The owner/permittee shall provide a letter to the City's Mitigation Monitoring Coordination (MMC) section stating that a Project Biologist (Qualified Biologist) as defined in the City of San Diego's Biological Guidelines (2012), has been retained to implement the project's biological monitoring program. The letter shall include the names and contact information of all persons involved in the biological monitoring of the project.

**ORIGINAL**

- B. **Preconstruction Meeting** - The Qualified Biologist shall attend the preconstruction meeting, discuss the project's biological monitoring program, and arrange to perform any follow up mitigation measures and reporting including site-specific monitoring, restoration or restoration, and additional fauna/flora surveys/salvage.
- C. **Biological Documents** - The Qualified Biologist shall submit all required documentation to MMC verifying that any special mitigation reports including but not limited to, maps, plans, surveys, survey timelines, or buffers are completed or scheduled per City Biology Guidelines, Multiple Species Conservation Program (MSCP), Environmentally Sensitive Lands Ordinance (ESL), project permit conditions; California Environmental Quality Act (CEQA); endangered species acts (ESAs); and/or other local, state or federal requirements.
- D. **BCME** -The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME) which includes the biological documents in C above. In addition, include: restoration/restoration plans, plant salvage/relocation requirements (e.g., coastal cactus wren plant salvage, burrowing owl exclusions, etc.), avian or other wildlife surveys/survey schedules (including general avian nesting and USFWS protocol), timing of surveys, wetland buffers, avian construction avoidance areas/noise buffers/ barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City ADD/MMC. The BCME shall include a site plan, written and graphic depiction of the project's biological mitigation/monitoring program, and a schedule. The BCME shall be approved by MMC and referenced in the construction documents.
- E. **Avian Protection Requirements** - To avoid any direct impacts to raptors and/or any native/migratory birds, removal of habitat that supports active nests in the proposed area of disturbance should occur outside of the breeding season for these species (February 1 to September 15). If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to City DSD for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable State and Federal Law (i.e. appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's MMC Section and Biologist shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.
- F. **Resource Delineation** - Prior to construction activities, the Qualified Biologist shall supervise the placement of orange construction fencing or equivalent along the limits of disturbance adjacent to sensitive biological habitats and verify compliance with any other project conditions as shown on the BCME. This phase shall include flagging plant specimens and delimiting buffers to protect sensitive biological resources (e.g., habitats/flora & fauna

**ORIGINAL**

species, including nesting birds) during construction. Appropriate steps/care should be taken to minimize attraction of nest predators to the site.

- G. **Education** –Prior to commencement of construction activities, the Qualified Biologist shall meet with the owner/permittee or designee and the construction crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved construction area and to protect sensitive flora and fauna (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas, etc.).

## II. During Construction

- A. **Monitoring**- All construction (including access/staging areas) shall be restricted to areas previously identified, proposed for development/staging, or previously disturbed as shown on "Exhibit A" and/or the BCME. The Qualified Biologist shall monitor construction activities as needed to ensure that construction activities do not encroach into biologically sensitive areas, or cause other similar damage, and that the work plan has been amended to accommodate any sensitive species located during the pre-construction surveys. In addition, the Qualified Biologist shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR shall be e-mailed to MMC on the 1<sup>st</sup> day of monitoring, the 1<sup>st</sup> week of each month, the last day of monitoring, and immediately in the case of any undocumented condition or discovery.
- B. **Subsequent Resource Identification** - The Qualified Biologist shall note/act to prevent any new disturbances to habitat, flora, and/or fauna onsite (e.g., flag plant specimens for avoidance during access, etc). If active nests or other previously unknown sensitive resources are detected, all project activities that directly impact the resource shall be delayed until species specific local, state or federal regulations have been determined and applied by the Qualified Biologist.

## III. Post Construction Measures

- A. In the event that impacts exceed previously allowed amounts, additional impacts shall be mitigated in accordance with City Biology Guidelines, ESL and MSCP, State CEQA, and other applicable local, state and federal law. The Qualified Biologist shall submit a final BCME/report to the satisfaction of the City ADD/MMC within 30 days of construction completion.

**MITIGATION FOR IMPACTS TO VEGETATION/ LAND COVER TYPES**

<b>Table 2 Mitigation For Impacts to Vegetation Communities/Land Cover Types</b>						
		<b>Impacts</b>				
<b>Vegetation Community</b>	<b>City of San Diego Tier</b>	<b>Impact Location</b>	<b>Impacts</b>	<b>Mitigation Ratio<sup>1</sup></b>	<b>Mitigation</b>	<b>Total Mitigation</b>
Valley needlegrass grassland	I	Inside MHPA, Outside Mit. Parcel	0.12	3:1 <sup>2</sup>	0.36	0.367
		Inside MHPA, Inside Mit. Parcel	<0.01 (76 sf)	4:1 <sup>3</sup>	0.007 (304 sf)	
Diegan coastal sage scrub	II	Inside MHPA, Outside Mit. Parcel	0.16	1:1	0.16	0.21
		Inside MHPA, Inside Mit. Parcel	0.01	2:1 <sup>3</sup>	0.02	
		Outside MHPA	0.03	1:1	0.03	
Disturbed Diegan coastal sage scrub	II	Inside MHPA, Outside Mit. Parcel	0.02	1:1	0.02	0.04
		Outside MHPA	0.02	1:1	0.02	
Non-native grassland	IIIB	Inside MHPA, Outside Mit. Parcel	0.11	1:1	0.11	
		Outside MHPA	0.03	0.5:1	0.015	
<b>Total</b>			<b>0.42</b>			<b>0.742</b>
<p>1 Mitigation ratios assume all mitigation will occur within the MHPA.                  2 Includes 2:1 mitigation ratio for direct impacts, plus 1:1 ratio for cumulative impacts. Cumulative impacts would require mitigation via native grassland creation.                  3 Includes an additional 1:1 mitigation ratio for impacts to mitigation area. Cumulative impacts require mitigation via native grassland creation.</p>						

**ORIGINAL**

## Required Mitigation

Mitigation to offset impacts to sensitive vegetation communities **shall** occur, per **Table 2**, through a combination of the following three options, prior to the issuance of Construction Permits:

- (1) Acquisition and Preservation of Existing Habitat**
- (2) Restoration and Preservation of Degraded Habitat in the Project Vicinity**
- (3) Contribution to The City's Habitat Acquisition Fund, plus a ten percent (10%) administrative fee.**

Mitigation will be required to comply with the City's Biological Impacts and Monitoring MMRP Conditions.

The mitigation ratios used to offset impacts to sensitive vegetation communities in this report assume mitigation will occur within the MHPA (Table 2). Impacts within the Mitigation Parcel would need to be replaced as part of the mitigation program for the proposed project. Thus, these impacted areas would require an additional 1:1 mitigation ratio, on top of that required per the City's Biology Guidelines (City of San Diego 2012).

### Valley Needlegrass Grassland

Direct impacts to 0.12 acre of valley needlegrass grassland would be considered a significant direct impact as well as a cumulatively significant impact. In addition, all direct impacts to valley needlegrass grassland would occur within the MHPA, less than 0.01 acre (76 square feet) of which would occur within the Mitigation Parcel. The impact would require mitigation (see Table 2), as follows:

- 3:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel), to be met with native grassland creation or restoration in the project vicinity,
- 4:1 mitigation ratio for impacts to the Mitigation Parcel, to be met with native grassland creation or restoration in the project vicinity.

Thus, impacts within the Mitigation Parcel would require mitigation at a total 4:1 ratio, while impacts outside the Mitigation Parcel (but still inside the MHPA) would require mitigation at a total 3:1 ratio. In total, the mitigation program will include a total of 0.367 acre of native grassland restoration. These measures would be implemented as described in the native grassland restoration plan (RECON 2016). The restoration areas would be located within areas of non-native vegetation communities (non-native grassland, ornamental plantings, and disturbed land) just east of the proposed fire station (See Project Restoration Plan).

### Diegan Coastal Sage Scrub

Impacts to 0.20 acre of Diegan coastal sage scrub, including disturbed Diegan coastal sage scrub, within the MHPA would require mitigation as follows:

- 1:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel).
- 2:1 mitigation ratio for direct impacts within the Mitigation Parcel.

**ORIGINAL**

- 1:1 mitigation ratio for impacts outside the MHPA.

Thus, the mitigation program would require a total of 0.25 acre of in-kind preservation (see Table 4).

### **Non-native Grassland**

Impacts to 0.11 acre of non-native grassland within the MHPA would require mitigation as follows:

- 1:1 mitigation ratio for direct impacts within the MHPA (outside the Mitigation Parcel),
- 0.5:1 mitigation ratio for impacts outside the MHPA.

Therefore, the mitigation program would require a total of 0.125 acre of in-kind preservation.

To the degree feasible, areas of cryptogamic soils should be carefully excavated prior to project grading. Care should be taken to keep the crust intact during excavation, and the salvaged soil should be stored off-site to be used in the native grassland creation and restoration areas.

### **MITIGATION FOR IMPACTS TO WILDLIFE SPECIES**

Mitigation for potential impacts to sensitive wildlife species would include the general mitigation measures during construction. Additionally mitigation for impacted sensitive species would include the following specific measures:

**Belding's Orange-Throated Whiptail:** Direct impacts to Belding's Orange-Throated Whiptail would be offset through the proposed 0.742 acre of habitat-based mitigation.

**Red Diamond Rattlesnake:** Potential impacts to Red Diamond Rattlesnake would be offset with the restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**Coast Horned Lizard:** The project would be required to include measures to maintain native ant species, discourage the Argentine ant, and protect against detrimental edge effects to this species. To accomplish this, during initial landscaping, container plant stock should be inspected by the project biologist (preferably off-site prior to shipment to the site). The biologist shall reject any plants that show evidence of non-native ants.

**Coastal California Gnatcatcher:** If construction activities are to occur during the breeding season of the coastal California gnatcatcher (March 1 – August 15), the project shall be conditioned to comply with the City's standard Land Use Adjacency Guidelines mitigation monitoring and reporting measures as described below, in order to avoid or reduce potential indirect and construction impacts to this species.

**Southern California Rufous-Crowned Sparrow:** Direct impacts to Southern California Rufous-Crowned Sparrow would be offset with the restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**San Diego Black-Tailed Jackrabbit:** Potential impacts to San Diego Black-Tailed Jackrabbit would be offset with restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**ORIGINAL**

**San Diego Desert Woodrat:** Potential impacts to San Diego Desert Woodrat would be offset with restoration and preservation of 0.742 acre of suitable valley needlegrass grassland, Diegan coastal sage scrub, and non-native grassland inside the MHPA.

**Nesting Raptors and Birds:** To avoid impacts to raptors, including Cooper's Hawk, no grading activities shall occur during the raptor breeding season of February 1 through September 15. If construction activities are anticipated to occur during the breeding season, then pre-grading nest surveys should be conducted to determine if raptors are nesting in trees on the site. If active nests are present, appropriate construction setbacks of a minimum of 300 feet would be required until young are completely independent of the nest. If no nesting raptors are detected during the pre-construction survey, no mitigation is required.

#### **MSCP SUBAREA PLAN -LAND USE ADJACENCY GUIDELINES**

Prior to issuance of any construction permit or notice to proceed, DSD/ LDR, and/or MSCP staff shall verify the Applicant has accurately represented the project's design in or on the Construction Documents (CD's/CD's consist of Construction Plan Sets for Private Projects) are in conformance with the associated discretionary permit conditions and Exhibit "A", and also the City's Multi-Species Conservation Program (MSCP) Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines. The applicant shall provide an implementing plan and include references on/in CD's of the following:

- A. **Grading/Land Development/MHPA Boundaries** - MHPA boundaries on-site and adjacent properties shall be delineated on the CDs. DSD Planning and/or MSCP staff shall ensure that all grading is included within the development footprint, specifically manufactured slopes, disturbance, and development within or adjacent to the MHPA. For projects within or adjacent to the MHPA, all manufactured slopes associated with site development shall be included within the development footprint.
- B. **Drainage** - All new and proposed parking lots and developed areas in and adjacent to the MHPA shall be designed so they do not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials prior to release by incorporating the use of filtration devices, planted swales and/or planted detention/desiltation basins, or other approved permanent methods that are designed to minimize negative impacts, such as excessive water and toxins into the ecosystems of the MHPA.
- C. **Toxics/Project Staging Areas/Equipment Storage** - Projects that use chemicals or generate by-products such as pesticides, herbicides, and animal waste, and other substances that are potentially toxic or impactful to native habitats/flora/fauna (including water) shall incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. No trash, oil, parking, or other construction/development-related material/activities shall be allowed outside any approved construction limits. Where applicable, this requirement shall be incorporated into leases on publicly-owned property when applications for renewal occur. Provide a note in/on the CD's that states: "All construction related activity that may have potential for leakage or intrusion shall be monitored by the Qualified Biologist/Owners Representative or Resident Engineer to ensure there is no impact to the MHPA."

**ORIGINAL**

- D. **Lighting** - Lighting within or adjacent to the MHPA shall be directed away/shielded from the MHPA and be subject to City Outdoor Lighting Regulations per LDC Section 142.0740.
- E. **Barriers** - New development within or adjacent to the MHPA shall be required to provide barriers (e.g., non-invasive vegetation; rocks/boulders; 6-foot high, vinyl-coated chain link or equivalent fences/walls; and/or signage) along the MHPA boundaries to direct public access to appropriate locations, reduce domestic animal predation, protect wildlife in the preserve, and provide adequate noise reduction where needed.
- F. **Invasives** - No invasive non-native plant species shall be introduced into areas within or adjacent to the MHPA.

The planting palette for project landscaping will not include any invasive plant species adjacent to the MHPA area that are identified on the Cal-IPC Invasive Plant Inventory Database (Cal-IPC 2016). A list of non-native invasive species observed within the survey area is included below. This list includes species on the Cal-IPC list as well as other species recommended for inclusion by City staff (City of San Diego 2016). Should these or other Cal-IPC listed species occur within the development and landscaped areas within or adjacent to the MHPA, they would be removed or controlled to the degree feasible:

<b>Species</b>	<b>Cal-IPC Rating</b>
western coastal wattle ( <i>Acacia cyclops</i> )	Not listed
vanilla scented wattle ( <i>Acacia redolens</i> )	Not listed
Australian saltbush ( <i>Atriplex semibaccata</i> )	Moderate
wild oat ( <i>Avena sp.</i> )	Limited
purple falsebrome ( <i>Brachypodium distachyon</i> )	Moderate
black mustard ( <i>Brassica nigra</i> )	Moderate
ripgut grass ( <i>Bromus diandrus</i> )	Moderate
soft chess ( <i>Bromus hordeaceus</i> )	Limited
red brome ( <i>Bromus madritensis ssp. rubens</i> )	High
Italian thistle ( <i>Carduus pycnocephalus</i> )	Moderate
toçalote ( <i>Centaurea melitensis</i> )	Moderate
iceplant ( <i>Delosperma sp.</i> )	Not listed
stinkwort ( <i>Dittrichia graveolens</i> )	Moderate
rattail sixweeks grass ( <i>Festuca myuros</i> )	Moderate
fennel ( <i>Foeniculum vulgare</i> )	High
garland daisy ( <i>Glebionis coronaria</i> )	Moderate
bristly ox-tongue ( <i>Helminthotheca echioides</i> )	Limited
short-pod mustard ( <i>Hirschfeldia incana</i> )	Moderate
horehound ( <i>Marrubium vulgare</i> )	Limited
slender-leaved iceplant ( <i>Mesembryanthemum nodiflorum</i> )	Moderate
radish ( <i>Raphanus sativus</i> )	Limited

curly dock ( <i>Rumex crispus</i> )	Limited
Russian thistle ( <i>Salsola tragus</i> )	Limited
Brazilian pepper tree ( <i>Schinus terebinthifolius</i> )	Limited
Mediterranean schismus ( <i>Schismus barbatus</i> )	Limited
London rocket ( <i>Sisymbrium irio</i> )	Moderate
smilo grass ( <i>Stipa miliacea</i> )	Limited

Any individuals of these species would be removed from the premises during the construction process and would not be included in the landscaping plant palette. Additionally, according to City standards for brush management, Zone 2 will include only native plants.

- G. **Brush Management** - New development adjacent to the MHPA shall be set back from the MHPA to provide required Brush Management Zone 1 area on the building pad outside of the MHPA. Zone 2 may be located within the MHPA provided the Zone 2 management will be the responsibility of an HOA or other private entity except where narrow wildlife corridors require it to be located outside of the MHPA. Brush management zones will not be greater in size than currently required by the City's regulations, the amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done and vegetation clearing shall be prohibited within native coastal sage scrub and chaparral habitats from March 1-August 15 except where the City ADD/MMC has documented the thinning would be consist with the City's MSCP Subarea Plan. Existing and approved projects are subject to current requirements of Municipal Code Section 142.0412.
- H. **Noise** - Due to the site's location adjacent to or within the MHPA where the Qualified Biologist has identified potential nesting habitat for listed avian species, construction noise that exceeds the maximum levels allowed shall be avoided during the breeding seasons for the following: California Gnatcatcher (3/1-8/15). If construction is proposed during the breeding season for the species, U.S. Fish and Wildlife Service protocol surveys shall be required in order to determine species presence/absence. If protocol surveys are not conducted in suitable habitat during the breeding season for the aforementioned listed species, presence shall be assumed with implementation of noise attenuation and biological monitoring.

When applicable (i.e., habitat is occupied or if presence of the covered species is assumed), adequate noise reduction measures shall be incorporated as follows:

**COASTAL CALIFORNIA GNATCATCHER (Federally Threatened)**

- 1. Prior to the issuance of any grading permit, the City Manager (or appointed designee) shall verify that the Multi-Habitat Planning Area (MHPA) boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the construction plans:

NO CLEARING, GRUBBING, GRADING, OR OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA

**ORIGINAL**

GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE CITY MANAGER:

- A. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO CONSTRUCTION NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:
  - I. BETWEEN MARCH 1 AND AUGUST 15, NO CLEARING, GRUBBING, OR GRADING OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND
  - II. BETWEEN MARCH 1 AND AUGUST 15, NO CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY CONSTRUCTION ACTIVITIES WOULD NOT EXCEED 60 dB (A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR
  - III. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM CONSTRUCTION ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND THE CONSTRUCTION OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING\* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB (A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED CONSTRUCTION ACTIVITIES SHALL CEASE

**ORIGINAL**

UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

\* Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB (A) hourly average or to the ambient noise level if it already exceeds 60 dB (A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the City Manager, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

- B. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:
  - I. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.
  - II. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.

The above mitigation monitoring and reporting program will require additional fees and/or deposits to be collected prior to the issuance of building permits, certificates of occupancy and/or final maps to ensure the successful completion of the monitoring program.

**ORIGINAL**

**ATTACHMENT H**  
**PRICE PROPOSAL FORMS (COST ESTIMATE)**

## PRICE PROPOSAL FORMS

The Design-Builder agrees to the design and construction of **North University City Fire Station 50 Design-Build**, for the City of San Diego, in accordance with these contract documents for the lump sum price listed below. The Design-Builder guarantees the proposed prices for a period of 120 Days from the date Proposals are due until the award of the **North University City Fire Station 50 Design-Build** Contract. The duration of the price guarantee may be extended as required by mutual consent.

Item No.	NAICS CODE	Description	Quantity	D*	Unit	Unit Price	Extension
<b>BASE PROPOSAL</b>							
1	524126	Bonds (Payment and Performance)	1		LS		\$
2	541330	Engineering and Design Services	1	D	LS		\$
3	236220	Construction Services	1		LS		\$
4	541330	WPCP Development	1		LS		\$
5	237990	WPCP Implementation	1		LS		\$
6	561730	Revegetation Installation	1		LS		\$
7	561730	120 Day Plant Establishment Period for Revegetation and Creation and Restoration	1		LS		\$
8	236220	90 Day Plant Establishment Period for all irrigated landscape	1		LS		\$
9	561730	<del>Revegetation Maintenance and Monitoring Program (5 Years)</del> 60 Month Restoration Maintenance and Monitoring Program	1		LS		\$

**PRICE PROPOSAL FORMS**

<b>Item No.</b>	<b>NAICS CODE</b>	<b>Description</b>	<b>Quantity</b>	<b>D*</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Extension</b>
10	561730	Revegetation Maintenance and Monitoring Program (25 Months)  25 Month Revegetation Maintenance and Monitoring Program	1		LS		\$
11	561730	Contingency for 5 Year & 25 Month Revegetation Maintenance (EOCP Type II)	1		AL		\$30,000
12	236220	Plan Checking and Permits Fees - (EOCP Type I)	1		AL		\$120,000
13	238210	Wet and Dry Utilities Fees - (EOCP Type I)	1		AL		\$120,000
14	236220	City Contingency/Field Orders - (EOCP Type II)	1		AL		\$400,000
15	236220	Furnishing, Fixtures & Equipment (FF&E) - (EOCP Type I)	1		AL		\$130,000
16	541690	Archeological and Native American Monitoring Program	1		LS		\$
17	541690	Paleontological Monitoring Program	1		LS		\$
18	541330	Biological Monitoring Program	1		LS		\$
<b>TOTAL DESIGN-BUILD BASE PROPOSAL (ITEMS NO 1 THROUGH 18 INCLUSIVE):</b>							<b>\$</b>

**\* Design Element (For City Use)**

**PRICE PROPOSAL FORMS**

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Total Price for Design-Build Proposal, (items 1 through 18, inclusive) amount written in words:

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Design-Builder: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

The names of all persons interested in the foregoing proposal as principals are as follows:

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IMPORTANT NOTICE: If Design-Builder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Design-Builder or other interested person is an individual, state first and last names in full.

## PRICE PROPOSAL FORMS

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### NOTES:

- A. The Contract Price to be used in the selection process as described in Attachment G of the RFP will be determined by the base proposal alone.
- B. Prices and notations shall be in ink or typewritten. All corrections (which have been initiated by the Design-Builder using erasures, strike out, line out, or "white-out") shall be typed or written in with ink adjacent thereto, and shall be initialed in ink by the person signing the Proposal.
- C. Failure to initial all corrections made in the proposal documents may cause the Proposal to be rejected as **non-responsive** and ineligible for award.
- D. Blank spaces must be filled in. The Design-Builder's failure to submit a price may render the Proposal **non-responsive** and ineligible for award.
- E. Unit prices shall be entered for all unit price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceed two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.
- F. All extensions of the unit prices will be subject to verification by the City. In the case of inconsistency or conflict between the product of the Quantity x Unit Price and the Extension, the product shall govern.
- G. In the case of inconsistency or conflict, between the sums of the extensions with the total proposal price, the sum of the extensions shall govern.
- H. Proposals shall not contain any recapitulation of the Work. Conditional Proposals may be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.
- I. Subcontractors' License Numbers must be filled in. Failure to provide the information specified may deem the bidder **non-responsive**.

## PRICE PROPOSAL FORMS

### DESIGN-BUILD LIST OF SUBCONTRACTORS TO BE INCLUDED IN THE PRICE PROPOSAL ONLY

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the Public Contract Code (PCC), The Design-Builder is to list below the name and address of each Subcontractor who will perform work, labor, render services or specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Design-Builder's total Bid. The Design-Builder is to list below the portion of the work which will be done by each Subcontractor. The Design-Builder is to list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed by the Subcontractor is to be stated for all Subcontractors listed. Failure to comply with the listing of the Subcontractors as specified may result in the Bid being rejected as non-responsive and ineligible for award. The Design-Builder is to list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, WoSB, SDB, HUBZone, and SDVOSB Subcontractors that Design-Builder are seeking recognition towards achieving any subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	DIR Registration Number	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>①</sup>	WHERE CERTIFIED <sup>②</sup>	CHECK IF JOINT VENTURE PARTNERSHIP
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____								
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____								

① As appropriate, Design-Builder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Design-Builder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Design-Builder will not receive any subcontracting participation percentages if the Design-Builder fails to submit the required proof of certification.**

**PRICE PROPOSAL FORMS**

**DESIGN-BUILD NAMED EQUIPMENT/MATERIAL SUPPLIER LIST TO BE INCLUDED IN THE PRICE PROPOSAL ONLY**

For credit calculations for City-funded contracts, see Chapter 11 in The WHITEBOOK. For non-City funded contracts, refer to the Funding Agency Provisions. If no indication of the supplier, manufacturer, or non-supplier is provided, listed firm will receive no credit for purpose of calculating the Subcontractor Participation Percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	DIR Registration Number	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB <sup>①</sup>	WHERE CERTIFIED <sup>②</sup>
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

① As appropriate, Design-Builder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Design-Builder shall indicate if Vendor/Supplier is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

**The Design-Builder will not receive any subcontracting participation percentages if the Design-Builder fails to submit the required proof of certification.**

# City of San Diego

**CITY CONTACT** Michelle Muñoz Contract Specialist, Email: [MichelleM@sandiego.gov](mailto:MichelleM@sandiego.gov)  
Phone No. (619) 533-3482, Fax No. (619) 533-3633

## ADDENDUM 3

### PROPOSAL DOCUMENTS 2-Step RFP



## FOR

### NORTH UNIVERSITY CITY FIRE STATION 50 DESIGN – BUILD

RFP NO.:	<u>K-18-1459-DB2-3</u>
SAP NO. (WBS/IO/CC):	<u>S-13021</u>
CLIENT DEPARTMENT:	<u>1912</u>
COUNCIL DISTRICT:	<u>1</u>
PROJECT TYPE:	<u>BC</u>

### **PROPOSALS DUE:**

**12:00 NOON  
NOVEMBER 28, 2017  
CITY OF SAN DIEGO  
PUBLIC WORKS CONTRACTS  
1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C  
SAN DIEGO, CA 92101**

**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the RFP are hereby made effective as though originally issued with the RFP. The Design-Builders are reminded that all previous requirements to this solicitation remain in full force and effect.

**B. CHANGES TO THE REQUEST FOR PROPOSALS**

1. To the Request for Proposal, Page 4, Section 1.1.7., **DELETE** in its entirety and, **REPLACE** with the following:
  - 1.1.7. Any architectural firms, engineering firms, specialty consultants, or individuals retained by the City to assist in drafting the RFPs or the Project's preliminary design may not be eligible to participate in the competition with any Design-Build Entity. It is the responsibility of the Design-Build Entity to obtain the required legal advice necessary to resolve such matters.

James Nagelvoort, Director  
Public Works Department

Dated: *November 16, 2017*  
San Diego, California

# City of San Diego

CITY CONTACT: Michelle Muñoz, Contract Specialist, Email: [MichelleM@sandiego.gov](mailto:MichelleM@sandiego.gov)

Phone No. (619) 533-3482, Fax No. (619) 533-3633

## ADDENDUM 4

## PROPOSAL DOCUMENTS

### 2-Step RFP



## FOR

### NORTH UNIVERSITY CITY FIRE STATION 50 DESIGN – BUILD

RFP NO.:	<u>K-18-1459-DB2-3</u>
SAP NO. (WBS/IO/CC):	<u>S-13021</u>
CLIENT DEPARTMENT:	<u>1912</u>
COUNCIL DISTRICT:	<u>1</u>
PROJECT TYPE:	<u>BC</u>

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### PROPOSALS DUE:

**12:00 NOON**

**NOVEMBER 28, 2017**

**CITY OF SAN DIEGO**

**PUBLIC WORKS CONTRACTS**

**1010 SECOND AVENUE, 14<sup>th</sup> FLOOR, MS 614C**

**SAN DIEGO, CA 92101**

**DEPUTY CITY ENGINEER**

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Engineer:

  
Registered Engineer

11/21/17  
Date

Seal:



**A. CHANGES TO CONTRACT DOCUMENTS**

The following changes to the RFP are hereby made effective as though originally issued with the RFP. The Design-Builders are reminded that all previous requirements to this solicitation remain in full force and effect.

**B. CHANGES TO THE REQUEST FOR PROPOSALS**

1. To Attachment G, Evaluation and Selection, pages 929 through 935, **DELETE** in their entirety and **SUBSTITUTE** with pages 4 through 10 of this Addendum.

James Nagelvoort, Director  
Public Works Department

Dated: *November 21, 2017*  
San Diego, California

JN/JB/lji

**ATTACHMENT G**  
**EVALUATION AND SELECTION**

## EVALUATION AND SELECTION

Proposals will be ranked according to the criteria described below:

### 1. Addenda to this RFP – Pass / Fail

- 1.1. The Proposer shall acknowledge each addendum issued in connection with this RFP, by listing all issued addenda on an Addenda Acknowledgement sheet to be submitted with the Proposal. Failure to acknowledge all issued addenda may result in the Proposal being considered **non-responsive** and ineligible for further consideration.
- 1.2. Including copies of addenda with the Proposal shall not constitute acknowledgement of issued addenda.

### 2. Proposer Exceptions to this RFP – Pass / Fail

- 2.1. If the Proposer takes exception to any portion of the contract terms, the Proposer must identify and explain to the City in writing the basis for the exception. The Proposer must submit any claimed exception a minimum of 10 calendar days prior to the due date for submission of Proposals. Exceptions taken after the submission period for this RFP may be cause for rejection of the Proposal as being **non-responsive**.

### 3. Summary of Proposal - Pass / Fail

- 3.1. Each Proposer must submit a one to two page summary of its Proposal.

### 4. Project Team (5 Points Max)

- 4.1. (0-2 points) Describe the proposed management plan for this Project. Describe the qualifications of key proposed construction and technical personnel, and subcontractors, from applicable fields including the following:
  - 4.1.1. Construction Management Team
  - 4.1.2. Architectural
  - 4.1.3. Civil
  - 4.1.4. Structural
  - 4.1.5. Mechanical & Plumbing
  - 4.1.6. Electrical
  - 4.1.7. Instrumentation and Controls
  - 4.1.8. Environmental
  - 4.1.9. Geotechnical
  - 4.1.10. LEED

- 4.1.11. Landscape
- 4.1.12. Fire Protection
- 4.1.13. Security
- 4.2. (0-3 points) Describe the Teaming Plan/Agreement: what is the management plan and structure of the team, how does the team resolve conflicts and RFI's? What is the communication protocol of the team? What are the QA/QC protocols for the team?

**5. Technical Approach and Design Concept (30 Points Max)**

- 5.1. Describe in detail the proposed design concept for this Project. Include detailed descriptions, conceptual design drawings, schematics, a list of major equipment, and any other information deemed necessary to allow the City to make an informed evaluation of the Proposer's technical approach. The completeness and technical merit of the design concept will be evaluated.
- 5.2. The following elements shall be included in this Technical Proposal:
  - 5.2.1. Proposed Design (0-5 points) – Describe the proposed design concept outlined in the RFP program. The City wants to encourage design and construction creativity within the limits of the project budget, schedule and concept.
  - 5.2.2. Durability and Ease of Maintenance (0-4 points) – Minimum requirements for functional life expectancy and durability are described in the RFP program. Points will be awarded based on the service life proposed by the design builder.
  - 5.2.3. Aesthetics and Functionality (0-3 points) – Describe the building design, architecture, aesthetics, and functionality in accordance with the RFP program.
  - 5.2.4. Delivery Method (0-4 points) Describe how the team will take advantage of the Design/Build delivery method.
  - 5.2.5. LEED (0-2 points) – Silver is a minimum requirement, therefore 1 point will be awarded if LEED Gold is proposed, and 1 additional point (for the total of 2 points) will be awarded if LEED Platinum is proposed.
  - 5.2.6. Building Commissioning (0-5 points) – Provide detailed commissioning plan. Describe how commissioning plan is incorporated and updated through the design process to the completion of the project.
  - 5.2.7. Site Layout (0-2 points) –Site layout of all improvements shall give special consideration to the following:
    - 5.2.7.1. Identification and access to main public entrance
    - 5.2.7.2. Landscape integration with building design

- 5.2.8. Programmatic/Design Enhancements (0-5 points) – Any opportunity to provide more than the RFP program or if the Design/Builder has the opportunity to provide something of benefit to fire department; such as but not limited to efficiencies in operations and maintenance, and latest technologies or trends in design and operations.

## 6. Construction Plan (25 Points Max)

- 6.1. Describe the proposed construction plan for this Project, including the following, at a minimum:
  - 6.1.1. Construction approach and methods
  - 6.1.2. Plan for phasing of construction activities
  - 6.1.3. General plan for functional testing and start-up
  - 6.1.4. Proposed safety program
  - 6.1.5. Proposed emergency response plan
  - 6.1.6. Proposed construction schedule
  - 6.1.7. Community Impact (Noise and Pollution)

## 7. Equal Employment and Contracting Opportunity (25 Points Max)

- 7.1. Failure to submit the required EOCP information will result in Proposal being determined as **non-responsive**.
- 7.2. Subcontractor Documentation
  - 7.2.1. The Proposer shall, at a minimum, provide with its Price Proposal a listing of at least 3 of the largest Subcontractors (constructors only) for the Project and all other Subcontractors (design professionals, etc.) that are known at the time it submits its Proposal using form AA05 and AA25. **Note:** Subcontractors include design professionals, as well.
  - 7.2.2. Work which requires Subcontractors that are not listed by Proposer at time of Award shall be let by Proposer in accordance with a competitive bidding process performed solely at Proposer's expense. Proposer shall provide public notice of the availability of the Work to be subcontracted, obtain competitive bids, and provide a fixed date and time on which the subcontracted work will be awarded. Subcontractors bidding on subcontracts pursuant to this provision shall be afforded the protection of all applicable laws, including Public Contract Code sections 4100 through 4114, inclusive.

- 7.2.3. The Proposer may select Subcontractors and Suppliers in one of 3 competitive ways i.e., lowest responsible bidder, best value for price and qualifications, or highest qualifications. Prior to construction NTP, the Proposer shall do the following:
  - 7.2.3.1. Submit the selection method used to the City in accordance with 2-5.3, "Submittals."
  - 7.2.3.2. Pre-qualify Subcontractors and Suppliers, in a manner at least as stringent as the City's pre-qualification standards.
  - 7.2.3.3. Review the Subcontractors and Suppliers ultimately chosen to verify that that they have not been debarred and are in good standing as a licensed contractor in California.
- 7.2.4. Open all Subcontract bids and provide to the City one copy without reservation or redaction. All records relevant to the award and performance of Subcontractors and Suppliers shall be public and provided to the City upon request and without redaction. The City may administer bidding itself for Subcontractors and Suppliers, or to direct the bidding procedures to be used by the Proposer.
- 7.2.5. The Proposer may use its corporate-generated subcontractor agreement to retain Subcontractors or Suppliers, provided the subcontractor agreement contains the terms required to be included in Subcontracts by this Contract.

The points will be awarded according to the chart below, based upon actual subcontract award amounts, as set forth in the price proposals.		<b>MAXIMUM POSSIBLE POINTS</b>
<b>OUTCOME</b>		
1	5% - 9% participation SLBE, ELBE or DVBE	5
2	10%-14% participation SLBE, ELBE or DVBE	10
3	15%-19% participation SLBE, ELBE or DVBE	15
4	20%-24% participation SLBE, ELBE or DVBE	20
5	25% participation SLBE, ELBE or DVBE	25
In no case the points shall exceed 25.		

**8. Presentation and Interview (10 Points Max)**

8.1 Evaluation of Design-Builder Team qualifications, experience, proposal and presentation.

**9. Reference Checks (5 Points Max)**

9.1 Provide name and phone numbers of your clients who you have completed three (3) Design -Build projects. Include project type and value of completed construction.

**TOTAL POINTS: 100**

**10. Review of Technical Proposal**

10.1. Following the receipt of the Technical Proposal, the City anticipates allotting 2 weeks for review of the Technical Proposals.

10.2. Subsequent to receipt, the City will provide written notice of the schedule for technical presentations. The purpose of the presentations is to allow the Panel to ask questions and to seek clarifications about the Proposal. It also provides an opportunity for the Design-Builders to elaborate on and highlight significant parts of their Proposals. This schedule will be on a random draw basis and has no bearing on the potential for award or other significance.

10.2.1. Interviews will consist of thirty (30) minute presentations by each Design-Builder; and (30) minutes for questions and answers. The presentations shall be given by the Design-Builders' key personnel who will be continuously involved on site or in San Diego in proportion to their level of involvement.

10.2.2. The Design-Builders are responsible for bringing any and all equipment and materials that are required for the presentation. The City will not provide any equipment or materials for presentations.

**11. Final Selection Based On Adjusted Low Proposal**

a. The ranking of each Design-Builder during the Technical Proposal review and the interviews will serve as the divisor of the Price Proposal and determine the weighted price.

b. Following review of the Technical Proposals and the presentations/interviews, the resulting qualitative evaluation scores will be totaled, averaged and converted to a decimal. The Proposal price will then be divided by the scores from the Technical Proposals. This becomes the Adjusted Low Proposal. The lowest adjusted proposal will be recommended for contract award. The adjustment to the Price Proposal is for selection purposes only. The Price Proposal as submitted is the actual Contract Price.

c. The following example illustrates the process:

Design-Builder	Qualitative Score (100 Maximum)	Price Proposal	Adjusted Price *
A	0.85	\$1,000,000.00	\$1,176,471
B	0.95	\$1,300,000.00	\$1,368,421
C	0.65	\$900,000.00	\$1,384,615
* The adjustment to the Proposal is for selection only. Firm "A" has Adjusted Lowest Proposal. The Price Proposal is the actual Contract amount.			



**R.A.BURCH  
CONSTRUCTION**



*RABC-ECC A Joint Venture*  
9834 River Street, Lakeside, CA 92040  
P: 760.788.0800 email: [rburch@raburch.com](mailto:rburch@raburch.com)/[jim@ecconstructors.com](mailto:jim@ecconstructors.com)

City of San Diego  
Public Works Contracts  
1010 Second Avenue, 14<sup>th</sup> Floor, MS 614C  
San Diego, CA 92101  
Attn: Contract Specialist



**RFP No. K-18-1459-DB2-3 (2<sup>nd</sup> Step)**

**North University City Fire Station 50 Design - Build**

This proposal includes data that shall not be disclosed outside the City of San Diego shall not be duplicated, used, or disclosed – in whole or in part—for any purpose other than to evaluate this proposal or quotation. If however, a contract is awarded to this offeror as a result of –or in connection with – the submission of this data, the City of San Diego shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the City's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in this technical proposal.

**TECHNICAL PROPOSAL REQUIREMENTS**

Legal name and address of company.

**RABC-ECC A JOINT VENTURE**

Legal form of company (partnership, corporation, joint venture, etc.). If joint Venture identify the members of the joint venture and provide all information required under this section for each member.

**JOINT VENTURE – R A Burch Construction Co Inc. & EC Constructors Inc.**

**Robert A. Burch – R A Burch Construction**

**Jim Summers – EC Constructors**

Year of establishment of entity.

**R. A. Burch Construction: 1984**

**EC Constructors: 2005**

If company is subsidiary of a parent company, identify the parent company.

**R. A. Burch Construction: Not Applicable**

**EC Constructors: Not Applicable**

Address of main office.

**R. A. Burch Construction:**  
**405 Maple Street, Suite B101**  
**Ramona, CA 92065**

**EC Constructors:**  
**9834 River Street**  
**Lakeside, CA 92040**

Address of San Diego satellite office if applicable.

**R. A. Burch Construction:**  
**Not Applicable**

**EC Constructors:**  
**Not Applicable**

Contact information for firm, including name, title, email address and telephone number.

**R. A. Burch Construction:**  
**Robert A. Burch – Managing Partner**  
**760.788.0800 [rburch@raburch.com](mailto:rburch@raburch.com)**

**EC Constructors:**  
**Jim Summers – Joint Venture Partner**  
**619.440.7181 [jim@ecconstructors.com](mailto:jim@ecconstructors.com)**

Number of employees in San Diego County.

**R. A. Burch Construction:**  
**23 employees**

**EC Constructors:**  
**49 employees**

Applicable License(s):

City of San Diego Business License Number, including expiration date.

**R. A. Burch Construction Co Inc.**  
**\*B2014040400**

**EC Constructors:**  
**B20112044182 – 10/31/18**

State Contractor's License Number, including expiration date and all classifications.

**R. A. Burch Construction:**  
**474242 – 05/31/19**  
**A, B, Asbestos**

**EC Constructors:**  
**585677 – 02/28/18**  
**B, C-8**

Professional Engineering/Architect License Number, including expiration date.

**R. A. Burch Construction:**

**Not Applicable**

**EC Constructors:**

**Not Applicable**

**\*Our Professional Engineering/Architects**

**Platt/Whitelaw Architects, Inc**

**California, Architect, (C10375) – 07/31/19**

Name, title, address and telephone number of person to contact concerning the 2-Step RFP:

**Robert A. Burch –Partner, 405 Maple Street, Suite B100, Ramona, CA 92065**

**760.788.0800 email: [rburch@raburch.com](mailto:rburch@raburch.com)**

**Jim Summers – JV Partner, 9834 River Street, Lakeside, CA, 92040**

**619.440.7181 email: [jim@ecconstructors.com](mailto:jim@ecconstructors.com)**

## **1: ADDENDA TO THIS RFP**

### ADDENDA ACKNOWLEDGEMENT SHEET

RABC-ECC A Joint Venture acknowledges receipt of FOUR (4) addendum(s) issued to this 2-Step RFP

Addendum #01 – 10/20/17

Addendum #02 – 11/02/17

Addendum #03 – 11/16/17

Addendum #04 – 11/21/17

**2- PROPOSER EXCEPTIONS TO THIS RFP**

CERTIFICATION OF EXCEPTIONS TO RFP  
NORTH UNIVERSITY CITY FIRE STATION 50 DESIGN/BUILD

R. A. Burch, General Partner of RABC-ECC, A Joint Venture hereby stipulates that RABC-ECC A Joint Venture takes no exceptions to this RFP

### 3.0 SUMMARY OF PROPOSAL

#### Project Team

Our Design-Build Team advantage to the City of San Diego will be to ensure quality and consistency throughout design and construction. RABC-ECC Joint Venture has the capacity, depth of personnel, financial and equipment resources, and equally strong architectural, engineering and subcontractor partners that will enable us to deliver outstanding performance for the City. The working relationships between RABC-ECC and our proposed architectural firm, Plait-Whitelaw, span a period of 10 years. This presents a proven and tested design-build team that will deliver a quality project with no risk to the government.

#### Technical Approach and Design

This DB Team is prepared to design and construct the facility in general compliance with the Bridging Documents; the Fire Station & Facilities Design & Construction Standards; the General Services Facility Maintenance Design Standard & Specification Guideline; the Climate Action Plan Compliance checklist; the conditions of the Site Development Permit; all other performance standards and project requirements identified in the Request for Proposal; and all required current code and regulatory requirements.

The Facility will be designed and constructed with close attention to the wear and tear that emergency response facilities are typically subject to. The Interior and Exterior Finish Schedule has been developed in conjunction with all documents referenced in the RFP and from recent relevant experience working on City of San Diego Fire Stations and their specific requests. This facility is an emergency response facility and an Essential Services Building. As such, there are very specific functional effectiveness requirements which have been incorporated into the Schematic Design. These requirements will be reviewed and verified in accordance with the current Fire Station standards.

The RABC-ECC Team proposes to achieve LEED Gold certification. Our proposed strategy for LEED Gold targets a total of 62 LEED points – or Gold, plus two. These two additional points, along with 14 potential points, shall serve as a buffer to develop sufficient points in the design & construction process prior to submission to GBCI.

The HVAC and Plumbing Systems will be commissioned in full compliance with commissioning specification requirements. The commissioning of this facility will be a designed process of documentation, training, adjustment, testing, and verification performed to ensure that the finished facility operates as intended. The Test Engineer of the Commissioning Authority will perform a focused review of the design and develop a commissioning plan to identify all commissioning activities.

We propose to maintain the primary layout of the site as currently developed and accepted in the Site Development Permit. The adjustment we propose in our conceptual plan is to relocate the Public Lobby to the 2<sup>nd</sup> level of the building which allows for clear identification and access to the public entrance to the facility.

We have proposed 21 Programmatic/Design Enhancements for the Fire Station #50.

## Construction Plan

Utilizing major subcontractors in the design phase where they have worked with the JV and the designers to coordinate design provides for efficient and streamlined transition into the construction process. Our team will not have to finalize the design and bid out the major elements of work prior to starting construction. Our team will be fully coordinated and prepared to execute the construction upon final design approval and permitting.

The JV team has carefully considered the phasing of construction activities to best suit the project requirements and constraints. Due to the environmentally sensitive areas on and adjacent to the site, all grading and site development work will be closely coordinated with our Project Biologist to insure compliance with all environmental requirements of the Site Development Permit and RFP.

The general plan for functional testing and start-up will be part of the overall Commissioning Plan provided by the Commissioning Agent during project design. The LEED Design Team will follow the general plan for the testing and start-up.

RABC-ECC's goal is to create a safety culture that believes from the top down that zero accidents is an attainable goal. Although both Joint Venture firms already have an excellent safety record, we believe that it is not enough to meet the minimum requirements of the applicable safety standards. A robust safety culture will continue seeking methods to progressively improve the safety program. RABC-ECC will develop an Emergency Response Plan specifically for the Fire Station #50 site.

The proposed schedule demonstrates that the project can be successfully completed with the 600 workday (870 calendar days) duration anticipated by the City.

We strive to maintain a good relationship with the community. Dust will be kept to a minimum by watering during earthwork activities and to control dust from construction traffic. The JV will provide street sweeping as necessary to insure we maintain a clean project site, including the adjacent streets. The project superintendent will make sure that all JV and subcontractor personnel abide by prescribed construction start times outlined in the City regulations.

The project team will work with PW staff and City Traffic Department to develop traffic control plans for work within the right-of-way to minimize impact to traffic flow due to construction activities.

## Equal Employment and Contracting Opportunity

RABC-ECC has provided with its Price Proposal a listing of at least 3 of the largest Subcontractors (constructors only) for the Project and all other Subcontractors (design professionals, etc.) that are known at proposal time using form AA05 and AA25.

## Reference Checks

RABC-ECC has provided the contact information of our clients for whom we have completed three design-build projects.

## 4.0 PROJECT TEAM

### PROPOSED MANAGEMENT PLAN

The RABC-ECC Design-Build Team for the North University City Fire Station #50 has been thoughtfully assembled to combine complementary and compatible resources and services in completing a vast array of design-build commercial, essential service and industrial facilities. Our team advantage to the City of San Diego will be to ensure quality and consistency throughout design and construction. RABC-ECC Joint Venture has the capacity, depth of personnel, financial and equipment resources, and equally strong architectural, engineering and subcontractor partners that will enable us to deliver outstanding performance for the City. The working relationships between RABC-ECC and our proposed architectural firm, Plait-Whitelaw, spans a period of 10 years. This presents a proven and tested design-build team that will deliver a quality project with no risk to the City.

RABC-ECC will utilize a “total team” partnering approach to insure success. Early in the proposal stage, the most qualified A/E firms and major subcontractor team members are selected based upon demonstrated understanding of the design/build process with RABC-ECC and experience on similar past projects. It is our policy to involve and partner the construction subcontractors with their respective A/E counterparts from the pre-bid design stage to the final design submittal and on to the project acceptance phase. This insures a “buy in” to the design methods, materials, and products incorporated in the final design documents, thus eliminating conflicts in both the design and construction phases.

The construction team supports the design effort, as the design team will provide support and oversight during construction. This includes not only the construction support functions of submittal review and responding to requests for information (RFI's), but also working through design revisions that may result from unforeseen conditions at the job site, Client requests, or other situations that would initiate a refinement of the design. Members of the design team shall also visit the job-site several times a month to attend construction meetings and to verify that the construction is being done in accordance with design intent and approved-for-construction drawings. Following a site visit, the designer performing the visit shall submit a report detailing their observations, recommendations, and/or findings. They shall also visit the site if a situation requires the designer's presence to develop a solution. At the end of the project, the Project Manager shall coordinate with the Design Team and consultants and ensure their involvement with final inspection, equipment start-up, and the commissioning of the facility along with City staff and Fire Department personnel. The Design Team and QC staff shall work together to compile the OMSI Manuals and as-built record drawings. The Design Team shall stay involved in the process through acceptance and warrantee period.

We are proud to introduce our elite team members:

## CONSTRUCTION MANAGEMENT TEAM

Corporate Project Manager Design/Construction: Andrew Martin – R. A. Burch Construction  
Mr. Martin has a BS in Civil Engineering from SDSU, and has over 20 years' experience in managing Design-Build commercial and industrial projects. His project experience includes a recent Fire Station #10 at Camp Pendleton.

Senior Construction Manager: James Summers – EC Constructors  
Mr. Summers is President of EC Constructors and has over 20 years in Design-Build Management and 30+ years of public works construction experience. He has overseen the bid process for two design-build fire stations: Pine Valley Fire Station (Design-Build), and Garden Grove Fire Station (Design-Build, RABC-ECC JV) as well as oversight in construction of seven (7) essential service facilities, including two fire stations for the City of San Diego.

On-Site Project Manager: Kenny Kubiak – EC Constructors  
Mr. Kubiak has more than 12-years' experience as Project Manager, and has performed as Project Manager for the Garden Grove Fire Station (Design-Build, RABC-ECC JV), and two recent stations for the City of San Diego, Fire Station #22, and Fire Station #17. Kenny and our proposed project superintendent, Ken Toups, have a proven record of successful work with the City PW personnel and City Fire Department personnel to successfully design and construct another high-quality fire station for the North University City community. Mr. Kubiak has very recent experience working with City of San Diego DSD in coordination of permitting and processing necessary to obtain all permits for construction.

Site Superintendent: Ken Toups – EC Constructors  
Mr. Toups has more than 26 years' experience as a Project Superintendent and General Superintendent. Ken will be constructing the Design-Build Pine Valley Fire Station #44 for the County of San Diego during design of FS#50 and recently completed Fire Station #17 for the City of San Diego. He garnered his initially fire station construction experience working on the Chino Fire Station in Chino, CA. Mr. Toups has the necessary experience and skills to successfully complete another quality fire station for the City of San Diego.

## ARCHITECTURAL

Alison Whitelaw FAIA, LEED AP BD+C, Platt Whitelaw Architects, Quality Mentor  
Ms. Whitelaw's experience includes several life safety facilities: Fire Station 31, City of San Diego, Fire Stations 5, 17, and 45 LEED Commissioning, City of San Diego La Jolla Shores Lifeguard Station Tower, City of San Diego. Alison also provided consulting services to the City of San Diego for the development of the Nobel Athletic Park & Recreation Center located just northwest across the intersection from the Fire Station #50 site. She also provided design services for the North University City Branch Library project with the City. Alison provides the team with extensive design experience on similar projects, extensive experience working with City of San Diego PWD, and first-hand knowledge of what the University City Community desires for quality, aesthetics, and sustainability of facilities.

Naveen Waney, AIA Platt/Whitelaw Architects, Architect of Record

Mr. Waney has been with Platt/Whitelaw for over 30 years and has extensive experience in government and public-sector projects, specifically the North Pacific Beach Lifeguard Station for the City of San Diego. Naveen also provides the team with first-hand knowledge with communications and coordination with the north University City Community through his involvement with the North City Pure Water Pump Station project. Mr. Waney has significant experience with various City of San Diego projects and as such will be a valuable asset to the team meeting City of San Diego Standards and working with DSD in the permitting process, and his experience with design & construction of technical projects provides knowledge of systems to compliment the specific fire station experience of Ms. Whitelaw and the JV personnel.

**CIVIL**James Haughey, PE LEED AP, Michael Baker International

Mr. Haughey has garnered extensive experience with civil design on private and public works projects with MBI over the past 26 years. His expertise includes grading design, improvement plan details, hydraulics and hydrology, construction specifications, and technical calculations in support of successful civil designs. Jim was responsible for providing engineering design for the Fire/Emergency Medical Training (EMT) Facility Design-Build at Miramar College, San Diego. Jim Haughey, Jim Summers, and Kenny Kubiak have worked successfully through design and construction on 18 design-build public works projects in the past 16 years.

Scott Davis, PE, LEED AP, Project Manager, Michael Baker International

Mr. Davis is experienced in commercial and public works engineering. In his 13 years with MBI, Scott has garnered experience with rough & precise grading plans, public improvement plans, water, sewer and storm drain layout & design, hydraulics & hydrology, and ADA accessibility requirements. Mr. Davis is currently working with the RABC-ECC Team providing civil design for the Chollas Water Operations Facility D/B project.

**STRUCTURAL**Christopher Kamp, Structural Engineer, Stedman & Dyson Structural Engineers

Mr. Kamp has over 39 years of structural design and engineering experience on a wide range of projects involving municipal and civic facilities including fire stations. Mr. Kamp's project experience includes Fire Station Renovation, Building 22131, Camp Pendleton (Design-Build), P-817 Fire Station, Camp Smith MCB Hawaii, (Design-Build), Riverpark/Oxnard-Ventura Joint Use Fire Station, Oxnard, and Fire Station Building 700 Addition, NAS Lemoore, California.

**MECHANICAL & PLUMBING**Roy Campbell, PE, LEED AP, Principal Mechanical Engineer, MA Engineers

Mr. Campbell has more than 33 years of experience as a registered engineer in the states of California and Arizona. He has served as an ASHRAE San Diego Chapter President, Board of

Governor member and as chair of the Technical, Energy and Government Affairs Committee. His project experience includes the City of San Diego Bayside Fire Station, the City of San Diego Fire Station #5, the P-563 Fire Station at Camp Pendleton (Design-Build), and the SDCCD Miramar College Fire Science and EMT Training Facility (Design-Build). Additionally, MA Engineers is currently providing mechanical and plumbing design for the Chollas Water Operations Facility D/B project for RABC-ECC JV.

## ELECTRICAL

### Dmitriy Nathanson, PE, RCDD, Electrical Engineer, ELEN Consulting

Mr. Nathanson has more than 25 years of experience in the field of electrical engineering. He is an expert in the area of design-build projects and value engineering. His extensive experience with public works D/B projects includes the Chollas WOF Design-Build with RABC-ECC Joint Venture for the City of San Diego currently in permitting with City of SD DSD. Dmitriy has worked with Jim Summers and Kenny Kubiak on 12 design build projects of the past 16 years.

### Tim Locklear, Electrical Engineer

Mr. Locklear's areas of expertise include power and signal systems design for municipal facilities including fire stations, lifeguard stations, and police stations. Tim's project experience includes Pine Valley Fire Station #44 (with EC Constructors), Garden Grove Fire Station (Design-Build, with RABC-ECC Joint Venture), Escondido Fire Station #1, and La Mesa Fire Station #7, Oceanside Fire Station #7, and 17th Street Beach Safety Center, Del Mar (constructed by EC Constructors). Tim is currently working with Jim Summers, ECC project managers, and proposed electrical subcontractor on two other design build fire stations.

## INSTRUMENTATION AND CONTROLS

Design Coordination & Construction: Performance Air Systems (PAS) has significant experience providing Building Automation Systems (BAS) for various public works utilizing design build delivery. These projects incorporated BacNet DDC Controls with capability to interface with Automated Logic front end. PAS is currently working with RABC-ECC JV providing BAS for the Chollas Water Operations Facility as well as BAS system for D/B Pine Valley Fire Station #44 with EC Constructors. RABC & ECC both have significant experience working with PAS on projects with high quality instrumentation and controls systems for energy efficient and low maintenance facilities for our clients.

## ENVIRONMENTAL

### Andrew Thomson, Biologist and Restoration Ecologist, Dudek

Andrew Thomson is a biologist and restoration ecologist with over 15 years' professional experience working as an environmental specialist on a variety of public and private projects with Dudek and formerly with the U.S. Forest Service (USFS) in the San Bernardino National

Forest. He has extensive experience with habitat restoration projects involving sensitive resources, including rare plant species, wetlands habitats, and habitats for endangered wildlife. Mr. Thomson's experience includes writing biological technical reports, land management plans, habitat restoration plans, and biological monitoring reports. He also has extensive field experience throughout Southern California conducting vegetation mapping, habitat monitoring, jurisdictional wetlands delineations, focused surveys, and habitat assessments for special-status plant species. He is currently working on a variety of habitat restoration and biological resource projects throughout Kern, Los Angeles, Orange, Riverside, Imperial, and San Diego Counties.

## GEOTECHNICAL

### Design & Construction: Dan Math, GE Principal Geotechnical Engineer, CTE

Mr. Math has extensive experience providing geotechnical design, documentation, testing, and inspection on public works projects, specifically Fire Station #5, #17, #12 & #31 for City of SD, Fire Stations 1, 3, 4, 6, & 7 for Escondido, Fire Stations #5 & #6 for Vista, and Oxnard Fire Station #8. Dan will provide an updated geotechnical report for the project and serve as geotechnical engineer of record in consultation with the JV and the design team. Mr. Math will also provide oversight of geotechnical and special inspection personnel for the project during construction. CTE, and specifically Dan, is currently providing geotechnical engineering services and special inspections for JV on the Chollas WOF D/B project and provided geotechnical and other special inspections for ECC in coordination with Kenny Kubiak and Ken Toups for the Fire Station #17 project with the City.

## LEED

### Thomas Brothers, LEEDap BD+C, Platt/Whitelaw Architects

Mr. Brothers maintains LEED accreditation with the USGBC/GBCI and has successfully completed coordination of LEED documentation during design and construction for similar City of SD facilities including North Pacific Beach Lifeguard Station, North City Pure Water Pump Station, and North Crown Point Comfort Station. Thomas has the required expertise and experience to lead our team with the LEED documentation process through design, construction, and certification.

### Construction: Linda Necochea, LEED AP, BD+C, R. A. Burch Construction

Ms. Necochea has been a LEED Professional since 2003 and has performed as the LEED Administrator on several projects including Fire Station #10 at Camp Pendleton which achieved a Platinum certification. Additionally, Kenny Kubiak, Project Manger is LEED certified and will provide oversight for JV on LEED compliance during design and construction.

## LANDSCAPE

### Marian Marum, Principal Landscape Architect, Marum Partnership

Ms. Marum has practiced landscape architecture in the San Diego area for 37 years. Her project experience includes several design-build projects as well as six fire stations including Encinitas Fire Station #5, Fire Communication/Regional Dispatch Center, City of San Diego, and La Mesa Fire Station and Community Center for the City of La Mesa. Marian will also be an asset to the team with her knowledge of the North University City Community requirements from her recent experience on the North City Pure Water project teams.

## FIRE PROTECTION

Design & Construction: Fire Sprinkler design and construction will be provided by A1 Fire Protection. A1 Fire Protection is currently completing deferred approval design of fire sprinkler system for ECC at Fire Station #22 for City of SD and D/B Pine Valley Fire Station #44. A1 Fire is also currently completing design and construction of fire sprinklers for the JV on Garden Grove Fire Station #6 design build project. A1 fire has significant experience on City of San Diego projects and projects with the JV entities.

Fire Alarm system to be designed and constructed by Simplex Grinnel in close coordination with Tim Locklear at ELEN Consulting. Simplex Grinnel is one of the qualified systems listed in the Fire Station Standards for fire alarm systems.

The Fire Station Alerting System will be provided by Berg Electric (Berg). Berg, Tim Locklear, and Kenny Kubiak will work closely with US Digital to provide the design and infrastructure required for this station. Berg will install, test, and certify the system with the City Fire Department staff. Berg recently completed testing of a similar station alerting system with Ken Toups at FS#17 and will be completing similar work with ECC team at FS#22.

## SECURITY

Tyco / Simplex Grinnel (recently acquired by Johnson Controls) will be providing security design and construction in close coordination with Tim Locklear, ELEN Consulting. Tyco has extensive experience with the City of San Diego providing access control, video surveillance, and CATV systems in numerous City facilities. Tyco is currently working with the JV providing security and access controls systems on the Chollas WOF D/B project for the City.

Our major Subcontractors are listed on Form AA05 submitted with the price proposal and have been pre-qualified to meet all City of San Diego qualifications. The subcontractors and suppliers for this project will be pre-qualified by our team and have recent experience building similar facilities. We have met with these firms to discuss their work force sizes, capabilities, existing back-log and geographic preferences. These subcontractors have committed to supporting the construction effort with value engineering, identifying long lead items, schedule input, LEED

recommendations, and meeting participation. Involving major subcontractors early in the project assures buy-in as “stakeholders,” partners who help the project achieve a successful end result.

## THE TEAMING PLAN/AGREEMENT

Our primary objective is to establish a solid foundation of trust; a clear and demonstrated understanding of this project’s requirements; and productive collaboration between the City of San Diego, the Client and the RABC-ECC JV Design-Build Team beginning with the design process and continuing through building occupancy. We believe that early, up-front and continuous involvement of the Owner is paramount to the successful completion of this and any design-build project. Early partnering builds a cohesive team, synergy, and fosters trust, an often-overlooked fundamental key in our industry. Our approach to this design-build project is based on our number one desired outcome – to provide the highest quality facility possible to meet or exceed the City’s expectations. This primarily involves making every effort to understand the Client’s needs, keeping them fully apprised of how the design is progressing, and fully explaining the rationale behind our design. The intent is to keep the entire team (City of San Diego, City Fire Department, and the RABC-ECC team) involved in the development of the construction documents for the facility throughout the entire design and construction process. The preliminary design meetings, design review meetings and over-the-shoulder meetings ensure that the whole team is provided opportunity to influence the final design of the facility while maintaining the requirements set forth in the Site Development Permit.

The second component of successful interaction is carefully documenting and resolving our Client’s concerns and review comments. We know that from a client’s perspective, failure to completely respond to a client’s questions or concerns can be very frustrating. Our commitment to our Client includes providing concise, definitive responses to all review comments so that all can be certain that to the maximum extent allowable by the contract the facility will address the concerns and comments provided during design and so that all are clear on what to expect during construction.

Our experienced Design-Build Team excel at conceptual cost estimating and constructability reviews and are very skilled at looking around corners, peeling back layers of the project. Our Team has been there before and understands what it’s going to take to make Fire Station #50 a standard for the City. We maximize the use of budgeted funds because we work collaboratively with the architect. The team will make recommendations and analyze the pros and cons of different materials, building systems, and scheduling strategies.

The RABC-ECC JV project management team are an integral part of the design effort. Prior to submitting plans for review by the City, JV personnel will perform a review of the plans & specifications to assure compliance with City Standards, RFP, Budget, and perform constructability reviews as the design progresses. Major subcontractors will also review each design package prior to submission to the City to insure they are fully on board with the design as it relates to established budgets. We design the facility to support specific equipment selected in the design development process. Details and supports for equipment and materials, as well as

space planning & layout, is carefully coordinated. These detailed reviews serve to minimize conflicts and the need for RFIs during the construction process. Should the need arise to resolve a conflict or submit an RFI, Kenny Kubiak will facilitate the required clarifications with the design team and advise the City of the resolution.

The JV intends to create a SharePoint site to be utilized by all project personnel to facilitate communications and exchange of information. Kenny set up and out team is successfully utilizing SharePoint site for the Chollas WOF D/B project and the Garden Grove Fire Station project. All design coordination & submissions, responses from City personnel, project daily reports, and other necessary documentation is all saved on the SharePoint site to facilitate clear and constant communication between the various project team members.

To achieve quality work, our experience has taught us to view quality as a management preventative tool rather than a “policing” post-work control effort. Our effort begins during the subcontractor/supplier contract negotiations, continues through submittal procurement/review, and is at its highest level during the early/initial inspection activities. Quality Assurance and Quality Control will be facilitated through the integrated establishment of Design Quality Control Plan and Construction Quality Control Plan components.

Our project superintendent will conduct preparatory meetings with each trade foreman prior to start of work on the project. This meeting involves review of approved submittals to insure only those materials are utilized on the project as well as coordination of this trade with work of other trades. During execution of the work, the project superintendent reviews the in-progress work with the trade foreman to confirm proper installation and that all coordination with other trades in the planning process is in fact working properly. If necessary, adjustments are made to continue smooth and efficient work. Prior to calling for City Inspection, the project superintendent does a review of the work to insure compliance with design documents.

At critical points in the project, our management team will create punch list to insure systems are installed properly before the next phase of work. For example, there are inspections and reviews of all rough-ins in the walls prior to installation of drywall. Prior to calling for final inspection or punch walk with City personnel; our project team will conduct Contractor Punch Walk and create a list of items that need attention. These items will be completed and City DSD inspections coordinated before final walk through with PW and Fire Department staff.

RABC-ECC JV’s seasoned design-build team brings the experience, capability and team familiarity which results in a smooth transition between design and construction phases. Our diversity and depth of experience benefits our customers by delivering their new facility to their complete satisfaction. We are committed to maintaining a reputation of excellence with the City, and to bringing our most talented personnel to the task of providing an extraordinary Best Value choice for this project for all stakeholders.



**Andrew Martin, Vice President**  
**CORPORATE PROJECT MANAGER**

As Corporate Project Manager, Mr. Martin will be responsible for oversight and management support for the entire project, from preconstruction to project close-out. He will oversee design document review and submission, schedule development and updates during the design process, monitoring the master schedule and the design milestone schedule, He also manages the following:

Education:

*BS Civil Engineering -  
1986*

*San Diego State  
University, San Diego, CA  
EIT - California*

Sustainable Design: Andrew manages compilation and submission of all LEED documentation throughout construction.

Quality Control: Responsible for initializing, reviewing and subsequent submission of the construction quality control plan. Andrew reviews quality control efforts including attending weekly Quality Control meetings, observing proper storage and installation of materials and aiding the quality control team in quality enforcement.

Firm Name and Location:

*R. A. Burch Construction  
P.O. Box 1590  
Ramona, CA 92065*

Construction Support: In support of the Project Manager, he ensures that the field team has adequate resources including subcontractors, materials, equipment, and manpower to complete the project as efficiently as possible.

Cost Control: During the design process, works with the R. A. Burch estimating team and subcontractors who continually revise cost estimates for their scope of work as the design progresses. Ensures that any cost trade-offs or credits are tracked and submitted to the customer as the design progresses.

**Project Experience:**

**41 Area Operational and Community Facilities Program, Camp Pendleton, California,  
\$136,046,028**



Senior Project Manager: Andrew's responsibilities for this **Design-Build** project include active executive management responsibility for schedule, scope, budget, coordination of the project, and the firm's executive primary point of contact with the government.

Project Description: This project is unique in that it included the design and construction of three separately funded FY10MCON Projects; P-1012 ANGLICO Complex, P-1016 Recon Battalion

Complex, and P-1067 Bachelor Enlisted Quarters, in one contract. The scope of the 324,717 SF project includes multiple operational training, administration and community facilities for the 1st Reconnaissance Battalion and 1st Air Naval Gunfire Liaison Company (ANGLICO), as well as a 5-story, 103,551 SF 200-room Bachelor Enlisted Quarters complete with ocean views. This construction includes a single marine and fitness facility, various operations buildings including a **fire station**, a paraloft building with a parachute drying tower, and a 4-story Recon Headquarters building. It also included a new vehicle bridge and two pedestrian bridges to free-span across environmentally sensitive areas and a Waterway of the U.S., without disturbance of the habitat or encroachment by personnel or equipment within the environmental boundaries. Utility upgrades incorporate two new sewer lift stations, a new fire pump station, and a new communications distribution facility that serves to provide current and future communication requirements.

**P-783 1<sup>st</sup> MLG CLR-1, CST and 7<sup>th</sup> ESB, P-1001 1<sup>st</sup> MLG Military Police Company, \$20,800,000**



Project Manager: This **design-build** military construction campus included the Regimental Headquarters for the CLR-1, operations building for ESB, training building for the CST and administration building for the Military Police group. The four buildings house command decks, administrative offices and work areas, conference rooms, large training rooms, vaults and storage areas. The project is comprised of a total of 59,692 square feet of building area and 13 acres of site area. Andrew was responsible for schedule, scope, budget, coordination of the project and the firm's executive primary point of contact with the government. He also was responsible for directing LEED credits contributing to two LEED silver certifications for this campus project.

**N62473-07-C-8002, Design/Build Two Bay Maintenance Hangar C-17, Travis Air Force Base, California, \$43,893.052.14**

Senior Project Manager: This project was a **design-build** military construction of 101,700 SF, C-17 Double Bay Hangar designed to house either two C-17 or KC-10 aircraft for maintenance operations.



Exterior walls were CMU to 16' and steel superstructure covered with pre-insulated stucco embossed panels with enhanced insulating qualities. Natural daylighting was provided through the use of translucent panels strategically placed to optimize day-lighting. Windows were also included in all regularly occupied spaces to provide views to exterior spaces. In addition to the maintenance bays the facility included two equipment storage bays, private office

and open administrative office spaces, a breakroom designed to also be used as a training/briefing area, and bathroom/locker facilities. Site work included demolition of three existing hangars and support buildings and associated Hazardous Materials removals. 150,000 SF of new apron pavement, 30" thick, was required to blend and connect the new hangar to the rest of the airfield apron. A trench drain was provided along the flight line side of the hangar to carry storm water as well as to provide containment for accidental release of high expansion foam. The project also involved the relocation of

three fuel tanks for an existing adjacent fire pump house.

**Design/Build Repair Hangar 1, Building 210, NAS Lemoore, California, \$17,303,788**



Project Manager/Executive: This project included the complete renovation of 59,330 SF of administrative and shop spaces within the two story portion of this five module hangar. The open hangar bay was retrofitted and modified with new in floor AFFF under wing fire suppression systems with triple IR flame detection. The entire steel structure was upgraded to meet current seismic requirements. This renovation resulted in a hangar design that will meet the needs of the Navy well into the future with modernized facilities, including energy efficient

mechanical and electrical systems, durable finishes, state of the art data and communications systems, and aircraft hangar fire suppression system.

**N68711-03-D-7056 Task Order #0004, P-121 Design/Construction Advanced Sensors Integration Facility Naval Air Weapons Station (NAWS), China Lake, CA, \$19,487,872**

**Owner:** Department of the Navy, NAVFAC SW  
**Firm Employed By:** RA Burch Construction Inc.,  
**Dates:** September 2008 – February 2011  
**Role:** Project Manager

**Description:** This fast-track-schedule project was a multi-story laboratory where integrated weapons systems for the F-18 fighter were evaluated and tested. It was a six story structure with 13' external catwalks on all sides of the top three floors.

One particular challenge that I had to coordinate closely with the design team was the need for the user to be able to move a 16' long sharp pod weapons system through any part of the building (down corridors, around corners, etc.). This particular function required that the design incorporate a 22'x10' freight elevator to lift the Sharp Pod test

equipment. Due to the mission requirement that the laboratory remain able to continue work in the event of an elevator mal-function, a back-up lifting system consisting of a permanent crane on the exterior of the building was incorporated. Also, due to the mission, which included radar and laser sighting devices that operated from within the building, handrails on the catwalks of the upper three floors had to be made of non-conductive fiberglass material in order to prevent interference with those systems. The structure contained office, administrative, and conference spaces on the lower three floors and laboratory spaces with computer access flooring on the upper three floors that serviced customer supplied aircraft test articles.





9834 River Street  
 Lakeside, CA 92040  
 (619) 440-7181  
 Fax (619) 440-7180  
 EOE

**JAMES J. SUMMERS**

**President, Senior Project Executive**

**EXPERIENCE**

**EC CONSTRUCTORS, INC.**

**Lakeside, CA**

**Sept. 2005 – Present**

**President, Senior Construction Manager**

Responsible to oversee Construction Management for bid and design build projects. Duties include design coordination and constructability reviews with designers, coordination of project bidding with subcontractors, project scheduling, review of billings, coordination of field work, and coordination/resolution of field issues with Owner's Representative.

<b>Pine Valley Fire Station Design-Build</b>	<b>County of SD</b>	<b>\$8,200,000</b>
La Costa Meadows MS Concrete	Erickson Hall	\$1,507,190
Oak Crest MS New Science Buildings (Pkgs 1, 2, &3)	San Dieguito UHSD	\$6,083,753
Steele Canyon Sound Booth Modification	GUHSD	\$24,692
<b>Garden Grove Fire Station – Design Build</b>	<b>City of Garden Grove</b>	<b>\$5,535,919</b>
Lakeside Fire Station #1 Service Door	Lakeside Fire Protection	\$16,000
El Capitan Press Box Repair	GUHSD	\$44,983
Santana HS Repair Canopy Bldg. 600	GUHSD	\$20,702
Sage Creek HS Concrete	Erickson Hall	\$1,163,391
Pt. Loma Navy Base Equipment Pad	Bristol	\$27,411
SeaWorld Employee Parking Lot	Sea World	\$205,784
Chaparral HS Framing	Erickson Hall	\$94,061
UCSD Satellite Utility Plant	UCSD – Dynalectric	\$4,455,956
Miramar Hanger 4 Fire Suppression	Millinium Fire Protection	\$1,131,517
Moonlight Beach Safety Center	City of Encinitas	\$2,951,975
Del Mar Civic Center (JV)	City of Del Mar	\$13,973,977
Weese Administration Building Upgrades	City of Oceanside	\$1,133,375
Chollas Water Operations Facility Buildings (D/B)	City of San Diego	\$25,585,997
Helix HS Phase 3, 4, & 5a Modernization	GUHSD	\$10,847,842
<b>Fire Station #22</b>	<b>City of San Diego</b>	<b>\$5,741,750</b>
<b>Fire Station #17</b>	<b>City of San Diego</b>	<b>\$7,085,909</b>
MBDF New Operations Building	City of Oceanside	\$3,809,684
Structural Concrete Valhalla HS Main Bldg. Mod	CW Driver	\$389,928
Carlsbad HS Administration & Plaza Modernization	Carlsbad Unified SD	\$1,398,108
Grossmont HS Student Services & Arts Buildings	GUHSD	\$10,353,974
Hope & Kelly Modernization	Carlsbad Unified SD	\$413,151
MVHS 700/800 Mod – Concrete & Rough Carp	Erickson Hall	\$672,699
Pkg#5 Rough Carpentry 3 School Sites	Chula Vista Elem SD	\$396,090
South Mission Beach Lifeguard Station	City of San Diego	\$3,736,169
Maintenance & Operations Yard Improvements (JV)	Padre Dam Water District	\$8,466,008
Oak Grove MS Field & Track (Lease/Leaseback)	Jamul-Dulzura SD	\$432,222
Santana HS 400/500/700 Modernization	GUHSD	\$6,849,009
Naranca Covered Walk Repair	Cajon Valley USD	\$39,090



9834 River Street  
 Lakeside, CA 92040  
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GHHS Student Support Center Increment 2	GUHSD	\$4,417,948
Aviara Oaks Power & Low Voltage	Carlsbad USD	\$2,139,784
GHHS Student Support Center Increment 1	GUHSD	\$350,063
Ivy HS Modernization Concrete	Erickson Hall	\$132,464
City College Building C Concrete	SUNDT	\$444,902
Jamul Primary Administration & Freezer Upgrade	Jamul-Dulzura SD	\$796,477
Oak Crest MS Arts and Technology Mod Package 1	San Dieguito UHSD	\$592,353
Diegueno MS Entry Enhancement Media Ctr. Pkg. 1 & 2	San Dieguito UHSD	\$1,089,114
Hillside Recreation Center Renovation	City of El Cajon	\$1,260,655
1726 Wilson Avenue TI & Upgrade	City of National City	\$1,213,189
National City Aquatics	City of National City	\$3,569,603
Mt. Miguel HS Bldg. 700 Mod	GUHSD	\$6,043,706
Relaxation Stations	Sea World	\$ 63,921
El Cajon Valley HS – New P.E. Building	GUHSD	\$6,724,849
El Capitan HS – New P.E. Building	GUHSD	\$6,777,512
La Costa Canyon Demo/Concrete	San Dieguito UHSD	\$ 88,757
Oak Crest MS Earthwork/Demo/Concrete	San Dieguito UHSD	\$ 70,196
Diegueno MS Earthwork/Demo/Concrete	San Dieguito UHSD	\$ 233,348
3-Site Portable Move/Playground	Lakeside USD	\$1,246,107
Mesa College Learning Resource Ctr. Renovation	SDCCD	\$ 1,008,152
Miramar College Student Services Center	SDCCD	\$5,546,583
Site Concrete @ Mesa College	Swinerton Builders	\$ 978,675
Design Build Renovation 3571 Corporate Court	Sharp Healthcare	\$1,764,876
Modernization Building 300 El Cajon Valley HS	GUHSD	\$2,699,484
Grossmont College Standby Power	Grossmont-Cuyamaca CCD	\$ 978,471
Police HQ Upgrades	City of SD	\$2,102,861
Phase 5 Athletic Field Improvements Carlsbad HS	Carlsbad USD	\$3,574,872
Moonlight State Beach Improvements	City of Encinitas	\$4,384,194
Bldgs. 803/04/05 Mod & Facility Yard – Carlsbad HS	Carlsbad USD	\$ 471,854
Portables & Playgrounds – Lakeview & Lemon Crest	Lakeside USD	\$ 627,627
GHHS Buildings 60 & 130 Mod General Building	GUHSD	\$1,319,342
Mission Vista High Kitchen Package 1	Vista Unified SD	\$ 257,903
Vista Adult School Parking Phase 1 - Concrete	Vista Unified SD	\$ 634,101
Mission ES Building Concrete	Erickson Hall	\$ 362,306
Kimball School Roof Replace	National School Dis	\$ 279,533
El Cap CTE Ag Complex Concrete – Phase 3	Erickson Hall	\$ 512,684
Area 41 Concrete: Recon Bridge Abutments & Anglico Building Foundations	Webcor/RA Burch JV	\$1,097,113
Del Mar 17th Street Beach Safety Center	City of Del Mar	\$2,299,108
Miramar Heavy Duty Adv. Trans Conc. & Dynamometer	SD Community College	\$2,031,035
Miramar Cafeteria/Bookstore Specialties	SD Community College	\$ 463,305
Miramar Aviation Concrete Packages 6 & 9	SD Community College	\$ 476,149
Concrete – GUHSD Aquatics Facilities	Sundt	\$1,105,463
Concrete – El Cap CTE AG Complex	Erickson Hall	\$1,207,210
Fence Replacement 3 Schools Del Mar	Del Mar SD	\$ 207,745
Reroof Five Buildings and Construct Underground Storm	SDUSD	\$922,448



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 Lakeside, CA 92040  
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Drainage System at Angier ES		
<b>Heartland Regional Public Safety Training Center</b>	<b>San Miguel FPD</b>	<b>\$2,349,808</b>
Modernization at Helix Charter HS	GUHSD	\$2,158,692
Phase 9U New Construction GHHS: Specialties	GUHSD	\$ 500,510
Renette Recreation Center Renovation	City of El Cajon	\$1,161,208
Ocotillo Wells SVRA Vehicle Wash	State of CA	\$ 568,120
<b>Lakeside River Park Fire Administration</b>	<b>Lakeside Fire</b>	<b>\$5,289,669</b>
MCRD Mess Hall Expansion Concrete	RA Burch Construct	\$ 246,310
Oceanside HS CTE Building Concrete	Erickson-Hall Construction	\$ 160,35
Heartland Fire Training Facility Locker Room	City of El Cajon	\$ 407,973
Modular Relocation City to Mesa	SD Community College	\$ 336,009
SDUSD MET Interim Housing & TI	SD Community College	\$ 549,636
Classroom Conversion – ALBA School	San Diego Unified SD	\$ 986,804
HVAC Upgrade at Revere Center	San Diego Unified SD	\$ 471,920
Box Canyon Solar – Elect Building	Synergy Electric	\$ 251,499
Mesa College Design Center, Package 4	SD Community College	\$ 933,800
HVAC Upgrade at Memorial Academy	San Diego Unified SD	\$ 154,206
Buena Vista/Hope/Magnolia Summer Upgrades	Carlsbad Unified SD	\$ 726,194
HVAC Upgrades at Kate Sessions ES	San Diego Unified SD	\$ 355,934
Structural & Site Concrete – GHHS Science Building	Erickson Hall	\$ 342,771
Design Build JIEDDO AAR & Classroom	Soltek Pacific	\$ 698,451
Urban Corp SD Recycle Center Pkgs. 3,4,5,6,7, &10	Urban Corps SD	\$ 554,748
Cuyamaca LRC Expansion - Concrete	Grossmont/Cuyamaca	\$ 169,591
CM Science Building El Cajon Valley HS	Soltek/GUHSD	\$4,503,768
Grading/Utilities/Concrete at West Hills HS	GUHSD	\$ 819,302
2008 Relos Farr/Pioneer/Reidy Creek Schools	EUSD	\$ 473,964
El Capitan HS Modernization Ph2B-Gen Building	GUHSD	\$1,865,634
Helix HS Modernization Ph2B-Concrete	GUHSD	\$ 832,710
GHHS Modernization Ph2B-General Building	GUHSD	\$1,455,627
Unit Price Asphalt Replacement for GUHSD	GUHSD	\$ 778,863
Unit Price Concrete for GUHSD	GUHSD	\$ 1,085,797
South Cummings Substation Upgrade	Synergy/Navy	\$ 420,560
Site Prep & Modular Bldgs. – Pruess School	USCD	\$ 461,227
Foothills Adult School Door Replacement	GUHSD	\$ 63,724
Pool Resurfacing at El Capitan HS	GUHSD	\$ 105,560
<b>Hidden Meadows Fire Station #3</b>	<b>Deer Springs FPD</b>	<b>\$1,579,000</b>
Relocatables at Lincoln Acres School	National School District	\$ 288,400
Window Replacement – Ira Harbison & Lincoln Acres	National School District	\$ 227,967
Construct Trash Enclosure	SDSU	\$ 29,951
Replace Pool Deck at El Capitan HS	GUHSD	\$ 209,864
Field Upgrades SCHS – Backstop ECVHS	GUHSD	\$ 514,378
Arts Village at Miramar College	SDCCD	\$ 384,316
Infrastructure Ph1-Gen. Building, El Capitan HS	GUHSD	\$1,330,629
D-B Renovation Bldg. 24 (SCIF), Pt. Loma, CA (Consultant)	Dept. of the Navy	\$1,094,000



9834 River Street  
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**SOLTEK PACIFIC**

**San Diego, CA**

**1983 - 2005**

**Vice President, Program Manager, Design-Build Projects - (1999-2005)**

Primary responsibility is development of design-build proposals and teams; works with A/E firms on design to meet proposal requirements; coordinates with subcontractors on budgets; works with superintendents and project managers to ensure coordination among proposal, project requirements, and construction. Project Management oversight for all design-build projects. Projects include:

• 578	D-B P-342 Explosive Magazine, Fallon NV	Dept. of the Navy	\$ 5,012,000
• 569	D-B P346 CVN Maintenance Complex, Bremerton, WA	Dept. of the Navy	\$16,843,000
• 568	D-B Renov. & Seismic Upgrade, Bldg. 4312, Miramar	Dept. of the Navy	\$ 8,280,000
• 563	D-B North County Regional Education Center	San Marcos Unified	\$19,228,000
• 558	D-B P-198 Renov. of BOQ Historical Site, Monterey	Dept. of the Navy	\$30,970,000
• 545	Design-Build Scripps Ranch Middle School	SD Unified SD	\$42,524,200
• 535	D-B Parking Structure #4 and Campus Surge Building	UC Irvine	\$36,222,916
• 534	D-B BOQ Renovation, Bldg. 4325, Miramar	Dept. of the Navy	\$ 4,242,724
• 494	Design-Build P-301 BEQ's-Bremerton, Washington	Dept. of the Navy	\$26,507,440
• 493	Design-Build P-623 BEQ, 29 Palms, CA	Dept. of the Navy	\$17,673,474
• 492	Design-Build P-093 BEQ's Area 22 Camp Pendleton	Dept. of the Navy	\$16,263,124
• 491	Design-Build P-023 Explosive Magazine, Miramar	Dept. of the Navy	\$ 1,873,700
• 490	Design-Build P- 011 Aviation Armament Shops	Dept. of the Navy	\$ 4,911,643
• 474	Design-Build P-724 Regimental Artillery Maintenance	Dept. of the Navy	\$ 9,212,949
• 472	Design-Build P-254 BEQ's 32nd Street	Dept. of the Navy	\$37,194,056
• 465	Design-Build P-685 BEQs/Parking Structure	Dept. of the Navy	\$21,349,022
• 464	Design-Build Maxi-Mart	Dept. of the Navy	\$ 2,235,871
• 463	Design-Build P-234 Transient Student Quarters	Dept. of the Navy	\$16,458,619
• 440	D-B P-016 Weapons/Combat Systems Integration Lab	Dept. of the Navy	\$10,126,665
• 434	Design Build Pedestrian Bridge	UC Irvine	\$ 700,000
• 432	D-B P-728 Clean Room, Naval Aviation Depot	Dept. of the Navy	\$ 2,775,711
• 385	Design-Build P-495 Bachelor Enlisted Quarters	Dept. of the Navy	\$14,730,198
• 381	Design-Build Fiddler's Cove Marina Clubhouse	Dept. of the Navy	\$ 1,049,831
• 371	Design-Build Point Mugu New Youth Center	Dept. of the Navy	\$ 2,128,549
• 365	Design-Build Admiral Baker Golf Clubhouse	Dept. of the Navy	\$ 4,362,772
• 355	P-002 Construction of Bachelor Enlisted Quarters, Ph 3	Dept. of the Navy	\$26,695,043

**Project Manager (1994-1998)**

Directly responsible for on-site coordination and control of the project to client's full satisfaction. Ensured that the performance of construction was done in accordance with the contract documents, project schedule, project budget and with minimal risk. Duties included conducting negotiations, supervising subcontractors, serving as liaison among Owner, A/E, contractor and subcontractors. Projects include:

• 204	P-013T Construction of BEQ, Phase 2, MCAS Miramar	Dept. of the Navy	\$25,518,509
• 199	Cush Jaguar Showroom and Shop Area	Cush Jaguar	\$ 540,078



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- |   |                       |              |
|---|-----------------------|--------------|
| • 195 P-002T Construction of Bachelor Enlisted Quarters | Dept. of the Navy     | \$35,245,464 |
| • 177 Chaparral High School                             | Temecula USD          | \$25,679,663 |
| • 159 East/West Terminal Upgrade, Lindbergh Field       | Unified Port District | \$15,377,954 |

**Estimator (1992-1994)**

Lead estimator on various projects, budgeting and writing subcontracts. Assisted staffing of various projects. Assisted the Project Managers and Superintendents with project start-up after contract was awarded.

**Superintendent (1990-1992)**

Supervised all phases of project construction including negotiating contracts/change orders, processing submittals, providing trade coordination and direct supervision of employees and subcontractors. Projects include:

- Vista Verde Middle School, Val Verde/Perris Unified School District, CA - \$9,197,416
- SEOC/SRA Support Facility, Dept. of the Navy - \$9,505,754

**Assistant Superintendent (1983-1990)**

Assisted project manager and superintendent in overall job coordination and scheduling of trades and subcontractors.

Projects include:

- Bernardo Heights Middle School, Poway Unified School District, Poway, CA
- Navy Commissary Store, Dept. of the Navy, San Diego, CA

**Project Foreman/Asst. Superintendent**

Assisted the Project Manager and Superintendent in overall job coordination for self-performed work. Projects include:

- Kitchen Services at Jack Murphy Stadium, City of San Diego, CA
- Library Building Renovation at San Diego State University, SDSU, CA
- Warfare Operations Building Special Warfare II, Dept. of the Navy
- County Health Services, County of San Diego, CA
- Port Authority Building, San Diego Unified Port District, CA

**EDUCATION**

- Polk Community College – General Studies, 1979-1980
- Grossmont Community College – General Studies, 1981-1982

**PROFESSIONAL AFFILIATIONS/LICENSES**

- General Contractors “A/B/C-8” License 585677
- Member, Associated General Contractors, San Diego Chapter



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 Lakeside, CA 92040  
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**CLIENT REFERENCES FOR EC CONSTRUCTORS, INC. & JAMES (JIM) SUMMERS**

Name/Title:	Dena Johnson
Company Name:	Grossmont Union High School District
Address:	9600 Mildren Street La Mesa, CA 91941
Phone Number:	(619) 644-8150
E-mail Address:	dajohnson@guhsd.net

Name/Title:	Jeff Katz
Company Name:	Jeff Katz Architecture
Address:	6353 Del Cerro Blvd San Diego, CA 92120
Phone Number:	(619) 698-9177
E-mail Address:	jeff@jeffkatzarchitecture.com

Name/Title:	James Robbins, Principal
Company Name:	RJC Architects
Address:	320 Laurel Street, San Diego, CA 92101
Phone Number:	(619) 239-9292
E-mail Address:	jrobbins@rjcarch.com

Name/Title:	Chris Rizzuti
Company Name:	Grossmont Union High School District / Gafcon
Address:	9600 Mildren Street La Mesa, CA 91941
Phone Number:	(619) 644-8145
E-mail Address:	crizzuti@guhsd.net

Name/Title:	Mat Gates, Construction Manager
Company Name:	Erickson Hall Construction Company
Address:	500 Corporate Drive, Escondido, CA 92029-1517
Phone Number:	(760) 250-4009
E-mail Address:	mgates@ericksonhall.com

Name/Title:	Harry Nguyen
Company Name:	City of San Diego
Address:	9485 Aero Drive, San Diego, CA 92123
Phone Number:	(619) 980-9852
E-mail Address:	hnguyen@sandiego.gov

Name/Title:	Paul Clarke
Company Name:	Padre Dam Municipal Water District
Address:	9300 Fanita Parkway, Santee, CA 92071
Phone Number:	(619) 448-4551
E-mail Address:	pclarke@padre.org



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 Lakeside, CA 92040  
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**KENNY KUBIAK**

**Project/Construction Manager**

**EXPERIENCE:**

**EC Constructors, Inc.** | *February 2014 - Present*

- |   |                               |                    |
|---|-------------------------------|--------------------|
| • <b>Fire Station 6 &amp; Comm Bldg D/B (RABC-ECC JV)</b> | <b>City of Garden Grove</b>   | <b>\$5,535,919</b> |
| • Chollas WOF - Design Build (RABC-ECC JV)                | City of San Diego             | \$29,585,997       |
| • <b>Fire Station #22</b>                                 | <b>City of San Diego</b>      | <b>\$5,741,750</b> |
| • <b>Fire Station #17</b>                                 | <b>City of San Diego</b>      | <b>\$7,085,909</b> |
| • Wayfinding CIP San Diego Airport                        | SD Regional Airport Authority | \$ 604,698         |
| • National City Aquatics                                  | City of National City         | \$3,569,603        |
| • Wilson Avenue Tenant Improvement                        | City of National City         | \$1,213,189        |

In addition to management of specific projects, Mr. Kubiak provides assistance to Jim Summers, President on proposals for Design Build and Construction Management projects. Utilizing their vast experience working together at Soltek Pacific and separately, Mr. Kubiak and Mr. Summers are pursuing Design Build & CM projects with public agencies for EC Constructors.

**RQ CONSTRUCTION** | *2011 – January 2014*

*Project Manager – San Diego, CA*

- **Bachelor Enlisted Quarters, Parking Deck and Armory Complex** \$83,363,931

Project Description: Project involves the design and construction of a multi-story, multi-wing living complex, multi-story parking garage, and Armory. The Structural Masonry BEQ is a resort like facility with a Georgian Architectural exterior composing of white split face concrete masonry and red brick with white precast architectural accents. The LEED Gold facility has level five finishes throughout, including high end tile and faux wood plank flooring in each living unit. The facility also features a community entertainment building, with high end casework, two theatre rooms, video game consuls featuring custom wood cabinets with intricate electrical components, architectural chandelier lighting with an aesthetically pleasing architectural wood paneled atrium including a beautiful custom detailed white architectural precast concrete entry with white pillars and glazed storefront.

Wallace Creek, NC	Aug 1, 2011 Thru Jan 31, 2014
Responsible for Overseeing all aspects of design and construction from conceptual design to final completion. Direct, supervise and delegate activities to project team members and ensure enterprise and corporate objectives are achieved.	



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 Lakeside, CA 92040  
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- Library & Academic Resource Center Valley College** Van Nuys CA \$ 17,946,907  
 (Los Angeles Community College District)

*Project Description:* In addition to housing more than 130,000 books and 350 magazine/newspaper subscriptions the L&ARC includes teaching and study spaces, writing and learning center, instructional audio visual media learning center and historical museum. Concrete pad footings support a two-story steel moment frame structure enclosing 93,000 gross SF. Numerous windows and skylights allow natural light inside the building, heat-reducing roof lowers the building cooling demand and photovoltaic system provide 10% of the buildings overall energy. Sustainable materials complete the building interior finishes. Construction also included demolition and recycling on-site the existing concrete library structure. The project applied for LEED Certified.

Responsible for the management of on-site construction activities and compliance with contract requirements that included a Project Labor Agreement (PLA) an Owner Controlled Insurance Program (OCIP).

July 2009  
 Thru  
 March 2011

- Bytes Bistro (University of California)** Riverside, CA \$ 400,000

*Project Description:* Starbucks-style coffee shop (Bistro) built-out in a four-hundred square foot lobby space inside an existing building. Construction included demolition of existing finishes, installation of plumbing, mechanical and electrical infrastructure, new finishes that comply with health department requirements and food service equipment for various coffee beverages and pre-packaged, ready to serve food.

Responsible for on-site construction and contract administration. The project required work to be performed at night and during non-class times to minimize disruption of on-going educational activities. Work was completed ahead of schedule.

June 2011  
 Thru  
 Dec 2011

**J.D. Diffenbaugh, Inc.** | 2007 - 2011  
*Project Manager*

- Los Angeles Open Door Presbyterian Church**      Los Angeles, CA      \$30,120,584

*Project Description:* 54,839 SF church building with main sanctuary seating approximately 1,500, four hundred of which are in a balcony, a fellowship hall able to seat up to 600 in a banquet configuration, a nursery school for approximately 50 children, a gymnasium and administrative facilities. The new steel frame building sits on top of a 102,295 SF, 330-space, two-level cast-in-place concrete parking garage below the street level. Light gauge metal wall framing infill is finished on the exterior with Portland cement plaster and gypsum wall board on the interior. Large exterior windows and skylights allow natural daylight inside the building.

Replaced the previous Project Manager nine months after construction started. Responsible for on-site construction activities and resolution of issues contributing to slow progress in completing Guaranteed Maximum Price Contract.

March 2007  
 Thru  
 June 2009

**Sundt Construction** | 2005 - 2007  
*Project Manager*

- UCSD, S.D. East Campus Graduate Student Housing and Parking Garage**      San Diego, CA      \$66,000,000

*Project Description:* Design & Construction of (5) three-story buildings comprising 403 two-bedroom, one-bath apartments housing 800 graduate students with an adjacent 600 space, six-level cast-in-place concrete parking garage and two-story steel frame administration building with retail space on the ground level. The apartment buildings utilize cast-in-place concrete pad footings, light gauge metal wall framing, light weight concrete floor system, and exterior Portland cement plaster with gypsum wallboard on the interior.

Design Manager/Project Manager responsible for overall admin of the contract, managing completion and approval of construction document and on-site construction activities. The project required mitigation of possible unexploded ordinance during rough-grading, LEED Certified equivalent compliance documentation at close-out and mitigation measures for encroaching on a previously undisturbed green field.

January 2005  
 Thru  
 February 2007



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**Soltek Pacific | 1998-2004**  
*Project Manager*

• Design Build Campus Surge Bldg. & Parking Garage	UC Irvine, CA	\$36,252,916
• Design Build Transient Student Quarters	NAF, El Centro, CA	\$15,701,060
• Design Build Component Clean Room	NAS North Island, CA	\$ 2,774,210
• School of Social & Behavioral Sciences	CSU San Bernardino, CA	\$26,073,214
• Bachelor Enlisted Quarters	MCAS Miramar, CA	\$26,695,043
• Bachelor Enlisted Quarters	MCAS Miramar, CA	\$25,815,509
• Bachelor Enlisted Quarters	MCAS Miramar, CA	\$35,245,464

**Soltek Pacific | 1995-1998**  
*Quality Control Manager*

**EDUCATION:**

- **Associate in Science** | 1994  
*Construction Technology*

**CERTIFICATES & PROFESSIONAL AFFILIATIONS:**

- Design-Build Institute of America (DBIA) – Certificate Attached
- US Green Building Council (USGBC LEED AP BD+C) – Certificate Attached
- Blood borne Pathogens
- Concrete and Masonry
- Confined Spaces
- Control of Hazardous Energies
- Crane Safety Basics
- Demolition Hazards
- Electrical Hazard Recognition & Control
- Electrical Hazards | August 2013
- EM-385 Construction Safety Certification 1-1
- Emergency Action / Response | August 2013
- Ergonomics | September 2013
- Fall Protection
- First Aid and CPR Certification
- OSHA 10-Hour Program
- OSHA 30-Hour Program

**AWARDS & RECOGNITION:**

- Department of the Navy Letter of Appreciation | April 5, 2001



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**KEN TOUPS**

**Project Superintendent**

**EXPERIENCE:**

**EC Constructors, Inc.** | July 2013 – Present

*Superintendent – Lakeside, CA*

**Superintendent**

D/B Pine Valley Fire Station	County of San Diego	\$8,200,000
Fire Station #17	City of San Diego	\$7,085,909
Acting General Superintendent between running projects	Various projects	
Miramar College Student Services Center	SDCCD	\$5,546,583

**JAYNES CORPORATION**

San Diego, CA

January 1991 – December 2012

**General Superintendent**

Army Reserve Center	Garden Grove, CA
IT Building	Palomar College, CA
La Pata Aquatic Center	San Clemente, CA
Libby Elementary School	Oceanside, CA
California Proton Building	San Diego, CA
Saint Paul's PACE	Chula Vista, CA
GHS Science Building	La Mesa, CA
HHS Science Building	La Mesa, CA
SHS Science Building	Santee, CA
Broadway Pier Cruise Ship Terminal	San Diego, CA
El Camino HS Field Restoration	Oceanside, CA
Del Rio Elementary School	Oceanside, CA
Logan Heights Library	San Diego, CA
Chino Fire Station	Chino, CA
General Atomics Building	San Diego, CA

**Senior Superintendent**

All Hallows Academy	La Jolla, CA	\$ 4,700,000
El Corazon Senior Center	Oceanside, CA	\$ 8,700,000
HHS Science Building	La Mesa, CA	\$ 6,900,000
Hangar Additions Camp Pendleton	San Diego, CA	\$ 5,500,000



9834 River Street  
 Lakeside, CA 92040  
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**JAYNES CORPORATION (CONTINUED)**

**Superintendent**

Wagenheim Elementary	San Diego, CA	\$ 5,000,000
UCSD Dance Schools	La Jolla, CA	\$ 4,500,000
Iglesia Ni Cristo Church	Chula Vista, CA	\$ 6,500,000
Congregation Beth Am Synagogue	Del Mar, CA	\$ 6,800,000
Rock Springs Elementary Schools	Escondido, CA	\$ 5,800,000
Adat Yeshurun Synagogue	La Jolla, CA	\$ 6,500,000
Poway City Hall (concrete bid package)	Poway, CA	\$ 2,700,000
UCSD Bachman Building Renovations	San Diego, CA	\$ 2,000,000
Dunham & Associates Parking Structure	San Diego, CA	\$ 2,500,000

**EDUCATION:**

- Grossmont College – Architectural Drafting

**CERTIFICATIONS & PROFESSIONAL AFFILIATIONS:**

- OSHA 30-hour Safety Training
- OSHA 10-hour Safety Training
- First Aid/CPR Certified
- Smith System Defensive Driving Course
- EH&S Committee 2009 to present
- EGCA/City of San Diego SWPP Certificate
- AGC 8 Hour SWPP Seminar Certificate
- AGC 4 Hour Seminar on Understanding the New Construction General Permit Certificate
- Quality Assurance Steering Committee 2008 to present
- Jaynes Superintendent’s Best Practices Seminar 2006
- Jaynes Companies, Employee of the Month, February 2006

## 5.0 TECHNICAL APPROACH AND DESIGN CONCEPT

### PROPOSED DESIGN CONCEPT

Enclosed is Exhibit 1 plan with conceptual adjustments we propose to the Bridging Document layout which complies with the Fire Station Standards issued in Addendum 2, and Exhibit 2 with representation of the proposed finishes for the facility.

### PROPOSED DESIGN



We understand the facility illustrated in the Bridging Documents has been developed to an acceptable Schematic Design level. It has been developed in conjunction with the City Consultant and City personnel with the information known at the time. It has been reviewed and accepted by the community and approved by the City through the Site Development Permit process. It is a very thoughtful design and will be followed without major changes to the exterior building character, in order to eliminate significant re-reviews of the Site Development Permit.

This DB Team is prepared to design and construct the facility in general compliance with the Bridging Documents; the Fire Station & Facilities Design & Construction Standards; the General Services Facility Maintenance Design Standard & Specification Guideline; the Climate Action Plan Compliance checklist; the conditions of the Site Development Permit; all other performance standards and project requirements identified in the Request for Proposal; and all required current code and regulatory requirements.

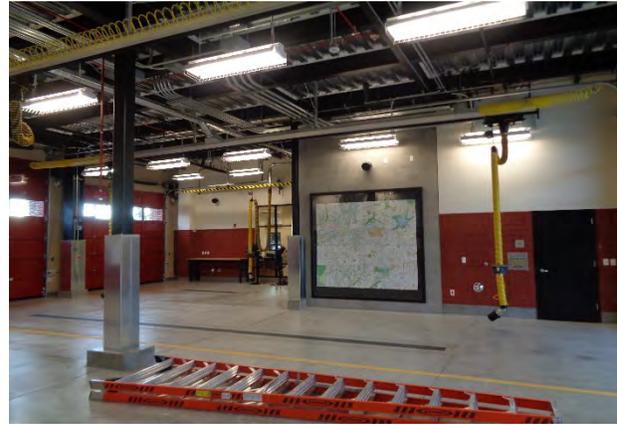
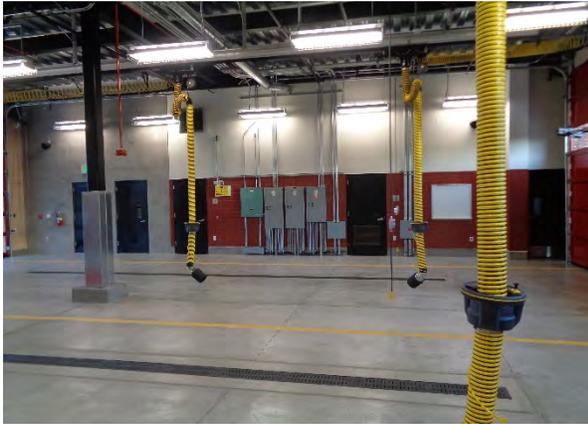
Upon review of the updated Fire Station Standards issued as part of Addendum #2 and from our recent relevant experience with Fire Stations, our Team proposes the following minor interior layout revisions which will add value to Fire Department operations. If the City is in agreement with the proposed revisions, we will make these adjustments prior to the start of DD. The changes should not require any major deviations to the exterior building façade or layout which we realize are in compliance with the Community accepted plan and the Site Development Permit. See attached Exhibit 1 for Value Added amenities, and as summarized below:

1. Relocate Turnout Locker Room for more Space:
  - Modify the Lower Level by relocating the Turnout Locker Room to the northeast corner of the building providing more space to add lockers to meet the new standards for this station and proposed number of personnel. Due to limited space within the building footprint, lockers are calculated as two each for the three fire fighter shifts of 8, plus one locker each for the two medics associated with the ambulance operation for the three shifts plus two additional lockers for total of 56.

- Provide Wash Room directly adjacent to the Turnout Locker Room and adjacent to where the apparatus will park for convenience access when returning from a run.
2. Relocate the public entry to the Second Level:
- Provides for space on the lower level for the expanded locker room to fit within the building footprint established in the bridging documents.
  - Provides a convenient public entry which is highly visible to the public from Nobel Drive.
  - Relocates the Watch Room to the mid-level which allows for more views and better natural daylight for the occupied portion of the facility
  - Deletes the potential safety risk of the pedestrian ramp, directing public to the lower level where fire apparatus are in operation.
  - Adds a Restroom on the second level adjacent to the Watch Room and Public Entry
  - Provides a functional Communication Room which meets the Fire Station Standards with adequate space for all required systems and overhead cable tray.
3. Provide Apparatus Bay Support Rooms in accordance with the Standards
- Right-sizes the Electrical Room and provides double doors which will be required by SDG&E due to the size of service
  - Provides a Fire Riser Room at the west end of the facility
  - Provides a restroom with direct access off the Apparatus Bay floor
  - Added Hose Storage Room in accordance with the standards
4. Relocate Training Room & Fitness Room
- Relocated the Fitness Room to the west side of the Second Level where the walls are primarily concrete finish allowing for improved durability of finished surfaces
  - Relocated the Training Room to the First Level. Fire Station Standards reference a shared Day Room & Training Room. This space could be utilized for training and/or secondary “Day” room with direct access to the Apparatus Bay

- Day Room on the upper level to be designed for Day Room and Training Room in accordance with Fire Station Standards

All these plan adjustments have been made based upon consideration of information provided without the benefit of consultation with Public Works or the Fire Department. We have allowed time in the schedule to examine the layout adjustments in close coordination with City personnel to develop an acceptable layout prior to moving into full design development.



## DURABILITY AND EASE OF MAINTENANCE

The Facility will be designed and constructed with close attention to the wear and tear that emergency response facilities are typically subject to. Reference attached Exhibit 2 for an Interior and Exterior Finish Schedule which has been developed in conjunction with all documents referenced in the RFP and from recent relevant experience working on City of San Diego Fire Stations and their specific requests:

- a. Exterior Finishes have been selected as part of the Bridging Documents. These finishes will be reviewed during Design Development and any necessary adjustment to allow for improvement while remaining in compliance with the Site Development Permit will be brought to the attention of the City for a coordinated direction on how to proceed. RABC-ECC Team proposes cast-in-place concrete walls with integral color rather than tilt-up wall panels. CIP walls maintain the desired aesthetics but do not rely on welded steel plates for long term structural integrity and do not utilize numerous sealant joints that require maintenance and replacement in a relatively short period of time.
- b. Interior Finishes suggested in the Bridging Documents will be reviewed for long life spans, durability and ease of maintenance without requiring special equipment or specific skills to do so. All spaces on lower level with slab on grade, except service rooms like electrical and fire riser, to be polished concrete for durability and ease of maintenance; 1 ½" thick sports flooring provided at Fitness Room for durability and better sound control since it is on elevated floor system; Birch

wood cabinets to be provided at kitchen and 3<sup>rd</sup> level Day Room for aesthetics and durability; Kitchen counters to be custom fabricated stainless steel with integral sink for improved maintenance and durability; LVP flooring to be provided at kitchen and dayroom areas for ease of cleaning and maintenance.

- c. Furnishings & Fixtures will be selected to maintain their integrity and performance for their stated life. Porcelain pavers on pedestals to be provided at 3<sup>rd</sup> level patio deck for durability and ease of maintenance; Trespa casework with stainless steel top to be provided at barbeque island on patio for low maintenance and durability.
- d. Mechanical & Electrical Equipment will be selected for durability and ease of maintenance & operation.

The mechanical system will be designed to provide all required service clearances to ensure ease of maintenance. All exterior coils will be coated to extend the life of the equipment. The RFP allows three separate alternatives, and we have selected the Variable Refrigerant Flow (VRF) system. Although this system has the highest initial cost, it has medium maintenance cost while offering the best efficiency, durability, and life expectancy. Shown below is a comparison of the three mechanical alternatives:

System Description	Initial Cost	Maintenance	Efficiency	Durability	Life Expectancy
VAV Rooftop Package System	High	High	Medium	Medium	High
Variable Refrigerant Flow (VRF)	Highest	Medium	Highest	High	High
High Efficiency Split Dx System	Lowest	Low	Lowest	Low	Low

- e. Special issues

- We will provide level Apparatus Bay floor slab for proper parking of the fire apparatus and slope to drain as indicated in Standards.
- Corner guards to protect the corners and edges of the walls from rolling equipment.
- Proper floor slopes to floor drains to avoid puddling of water.
- Paint and finishes on surfaces will be selected for wash ability and low absorption of fumes and microorganisms.

- No carpet flooring utilized; All flooring surfaces resist potential for bacteria or other harmful elements to accumulate; Easy to clean surfaces provided.
- f. In addition to the functionality of amenities stated above, they also provide maintenance benefits
- Minimal ramp & handrail maintenance required with relocation of Public Access
  - Additional storage added to reduce clutter around the facility
  - Additional restrooms reduce the wear on individual plumbing fixtures
  - Relocation of a better functioning Communications Room provides easier access for ongoing maintenance and upgrades to the facility
  - Relocation of Fitness Room adjacent to more durable wall surfaces reduces maintenance on finishes
  - Appropriate storage facility for Hose Storage and Breathing Air Racks allow for ease of inspection of systems
- g. Proposed Service life of major systems:
- Building envelope: 100 years CIP Walls / 60 years Plaster-Metal Panel Walls
  - Finishes: 15 years
  - Windows/Glazing: 50 years
  - Door/Door Frames and Hardware: 25 years
  - Roof systems: 30 years
  - MEP Systems: 25 years

## AESTHETICS AND FUNCTIONALITY

### Exterior Aesthetics

The exterior aesthetic of the facility as illustrated in the Bridging Documents will be maintained. Its solid expression of civic importance, reliability and community service is achieved through a combination of solid concrete first and partial second floor walls grounding the building to its site and lighter stucco and ample glass at the 2<sup>nd</sup> and upper level combined with aluminum trim and exposed wood beams that expresses transparency and warmth and provide a reference to the residential materials present in the adjacent neighborhood. The color palette will be detailed in association with the project stakeholders but will reflect the neutral scheme illustrated in the Bridging Documents with a subtle integral color to the exposed concrete walls combined with a light acrylic cement plaster finish to the upper walls.

### Interior Aesthetics

The interior aesthetic will be developed to reflect the safety and functionality requirements for the facility while providing a warm, comfortable atmosphere for the fire fighters on shift. The material and color palette will meet the intent of the Bridging Documents and the latest Fire Stations and Facilities Design and Construction Standards and be detailed in conjunction with the project stakeholders.

### Functionality

This facility is an emergency response facility and an Essential Services Building. As such, there are very specific functional effectiveness requirements which have been incorporated into the Schematic Design. These requirements will be reviewed and verified in accordance with the current Fire Station standards. Some of the major elements are defined below:

- Provide for continued services in the case of a disaster (Structural, communication systems, transformers & switch gear, emergency back-up systems, mechanical systems and operations)
- Circulation from various spaces within the building need to accommodate quick access to systems in case of an emergency.
- Building Systems need to be functional and user friendly for daily operations.
- Adequate equipment storage and ease of access is required for daily operations and maintenance of systems need to be minimal.
- Staff comfort level need to be high for effective and high performance.
- Durability & maintenance (per above)

## DELIVERY METHOD

Quite simply, RABC and ECC are Design-Build experts and Platt/Whitelaw Architects have significant experience with projects in this community and projects with the City of San Diego, including fire stations. While each project is unique and challenging in its own way, our team's familiarity with City of San Diego projects, fire station projects, and the Design-Build delivery method translates into one thing for the City of San Diego – seamless success for design and construction of this new fire station to serve the North University City community for 50+ years.

We would like to commend the City for approaching this project with a Design-Build delivery method. The best value the Joint Venture brings to the table is years of working experience with Design-Build projects and specifically fire stations. The below list includes the core values RABC-ECC JV have developed to bond and merge with the City personnel to work as one team.

Every member is on the same team: We are all in this together and we all have the same goal – to complete a successful project that meets or exceeds the expectations of the Fire Department and North University City Community.

**Total accountability:** One entity, RABC-ECC JV, is accountable for everything – including how the completed facility looks, how much it costs, and the time line of completion. We embrace this accountability on design build projects.

**Continuity:** A Design-Build firm is involved from start to finish which adds an inherent efficiency. The RABC-ECC management team for this project is committed from the proposal phase through the final turnover and occupancy working with Platt/Whitelaw and the design team and City personnel to deliver a quality project on time and within budget.

**Expertise:** Design-Build teams are experts in both fields. The Contractor specializes in design coordination, constructability, and efficiency of the construction process. The designers are lead by a licensed architect with formal training and experience in the architecture field. Between the two is a unique synergy that plays off each's expertise.

**Professional guides:** We've all heard the stories that design and construction can get out of hand and messy. Design and construction shouldn't be chaotic or stressful. A Design-Build firm is a beacon to clients throughout the process, guiding the way to the best possible outcome.

**Involvement:** Design-Build operates effectively when the client engages as an active participant in the design and construction of their project. By assuming this role, they are ensuring the positive outcome and realization of their goals – what they want is going to be achieved. RABC-ECC JV want the City to actively participate in the overall process as a collective team. We refuse to hold our cards up and not open the process as it was designed to be.

**Collaboration:** Design-Build eliminates the big egos common to this industry. After years of working together, we have stripped all barriers. This is a humbling industry that does not allow time for re-evaluating how teams should work together.

**The best kind of communication is open, honest and often:** Design-Build is transparent because we want clients to understand the process and to know what is going on. The best partnerships work, not because people say what everyone wants to hear, but because they say what everyone needs to hear. Along with the withdrawn barriers comes the ability to be able to speak our minds with one another.

**Time is of the essence:** Design and construction involves managing hundreds of time lines that need to coordinate in lockstep. Design-Build creates opportunities for clients to sit with big decisions, ask questions, and consider their options. With ECC and JKA, we have perfected an efficient process for successful delivery.

## LEED



The RABC-ECC Team proposes to achieve LEED Gold certification. Our proposed strategy for LEED Gold, as outlined below, targets a total of 62 LEED points – or Gold, plus two. These two additional points, along with 14 potential points, shall serve as a buffer to develop sufficient points in the design & construction process prior to submission to GBCI.

The Team recognizes that the project request for proposal stipulates that the project shall conform to the City of San Diego's Climate Action Plan (CAP) Checklist and associated design standards. The Team will use these standards as minimum requirements, but proposes to exceed them as part of achieving LEED Gold certification. Examples of areas where the proposed design shall exceed the CAP include, but are not necessarily limited to: energy efficiency, water efficiency, and bicycle facilities.

See Exhibit 3, *LEED v4 for BD+C: New Construction and Major Renovation Project Checklist*, for additional information.

Descriptions of LEED credit strategies for each LEED category are outlined, below.

### **Location and Transportation** (5 points)

As the project location has already been selected, there is little flexibility concerning what credits are available in this category. Given the project's location and scope, 1 point may be achieved in each of the following credits:

- Sensitive Land Protection – the project is not sited on sensitive land
- Surrounding Density and Diverse Uses – four uses are identified
- Bicycle Facilities – a nearby bicycle network exists, and short-term bicycle parking is identified in the Bridging Documents. The project Team proposes adding long-term bicycle parking
- Reduced Parking Footprint – the number of spaces shown should qualify
- Green Vehicles – green vehicle parking is identified in the Bridging Documents

### **Sustainable Sites** (9 points)

The bridging documents include several scope elements that match the intent of a number of LEED credits in this category, including habitat restoration, extensive stormwater management systems. The project Team proposes to achieve all points in the following credits:

- Site Development - Protect or Restore Habitat – restoration scope shown in Bridging Documents should meet this credit
- Open Space – the project boundary includes sufficient open space
- Rainwater Management – the required storm water permitting regulations will meet the Option 2 requirements for this credit
- Heat Island Reduction – the Team proposes to meet this credit using high-SRI PVC roofing and solar panels over on-site parking spaces
- Light Pollution Reduction – lighting fixtures meeting required limits will be selected and installed

**Water Efficiency** (8 points + 2 Regional Priority)

Water efficiency is an important consideration in the San Diego area, and reflecting that three of the six LEED Regional Priority credits for this region are water-related. The Team proposes to achieve all points in two of those credits, as outlined below (the third is not appropriate, given the project scope):

- Outdoor Water Use Reduction – the Team proposes to connect to the existing “purple pipe” reclaimed water system across Nobel Drive for irrigation use
- Indoor Water Use Reduction – the Team proposes selecting plumbing fixtures and fittings with calculated water use 50% below baseline.

**Energy and Atmosphere** (18 points + 1 Regional Priority + 1 Exemplary Performance)

In order to address the growing issue of human-caused climate change, and to meet the City of San Diego’s climate action plan, the Team proposes to aggressively target energy-efficiency and on-site generation strategies. This includes the following credits:

- Enhanced Commissioning – enhanced commissioning of electrical, mechanical, plumbing, and renewable-energy systems
- Optimize Energy Performance – reduce energy consumption to a level 29% below Title 24 2013 (LEED baseline)
- Renewable Energy Production – the Team proposes installing a 26kW photovoltaic array, on-site, which is approximately 20% increase over the minimum required in the RFP. This size array is anticipated to provide approximately 20% of the fire station’s required energy use, which will qualify for exemplary performance (note that this is also a Regional Priority credit)

**Materials and Resources** (5 points)

The Team proposes to use sustainable materials, and reduce construction waste, to reduce the impact of building materials on the environment. Specific credits targeted are:

- Building Product Disclosure and Optimization - Environmental Declarations – products with environmental product declarations (EPDs) will be selected
- Building Product Disclosure and Optimization – Sourcing of Raw Materials – products from manufacturers using “leadership extraction practices” (FSC certified wood, recycled content, renewable materials, etc.) will be selected
- Building Product Disclosure and Optimization – Material Ingredients – products with documented Health Product Declarations (HPDs) will be selected
- Construction and Demolition Waste Management – the Team proposes to divert a minimum of 75% of construction and demolition waste

**Indoor Environmental Quality (10 points)**

The Team proposes to meet the following LEED credit thresholds:

- Enhanced Indoor Air Quality Strategies – install entryway systems, cross-contamination prevention, filtration, and carbon dioxide monitoring
- Low-Emitting Materials – select low-emitting materials for four (4) categories of materials
- Construction Indoor Air Quality Management Plan – no smoking shall be allowed near the building during construction, and the Team shall execute a plan to protect all HVAC systems from contamination, and all vulnerable materials from moisture damage
- Indoor Air Quality Assessment – the Team proposes to perform a building flush-out, prior to occupancy
- Thermal Comfort – thermal comfort controls (thermostats and other strategies) will be provided in all occupied spaces
- Interior Lighting – the Team proposes to meet both the lighting controls and lighting quality provisions of this Credit
- Quality Views – quality views shall be provided for 75%, minimum, of occupied spaces

**Innovation (4 points)**

The Team includes a LEED accredited professional for BD+C version 4, and proposes to meet the exemplary performance standards for Renewable Energy Production, as outlined previously. In addition, the Team proposes to incorporate the following two innovation strategies:

- Sustainable Wastewater Management – reduce wastewater from water closets and urinals 50% below calculated baseline
- Design for Active Occupants – the proposed Fire Station includes many features (stairs, workout rooms, etc.) tailored to meeting the physical activity needs of the firefighter occupants, the Team proposes to use these design features to gain a LEED Innovation point

**Regional Priority (3 points)****Regional Priority Credits Targeted: (1 points each)**

- Renewable Energy Production (3 points in the credit required)
- Outdoor Water Use Reduction (2 points in the credit required)
- Indoor Water Use Reduction (4 points in the credit required)

## BUILDING COMMISSIONING

### Detailed Commissioning Plan

The HVAC and Plumbing Systems will be commissioned in full compliance with commissioning specification requirements. The commissioning of this facility will be a designed process of documentation, training, adjustment, testing, and verification performed to ensure that the finished facility operates as intended. The Test Engineer of the Commissioning Authority will perform a focused review of the design and develop a commissioning plan to identify all commissioning activities. The commissioning plan will include the following items as defined below.

Provide LEEDv4 Fundamental Commissioning and Enhanced Commissioning Option 1 services for mechanical, electrical, plumbing, and renewable energy systems and assemblies, this project. Building size is approximately 16,200sf.

### Fundamental Commissioning Tasks

- Review OPR, BOD, and project design
- Develop and utilize commissioning plan
- Incorporate commissioning requirements into the construction documents.
- Conduct a commissioning scope/kickoff meeting and distribute meeting minutes.
- Conduct construction phase meetings and distribute meeting minutes.
- Verify the installation of all commissioned systems per the plans and specifications.
- Provide periodic site observation reports.
- Generate an issues log for deficiencies and deviations related to commissioned systems.
- Verify start-up procedures of all major equipment being commissioned and sample start-up of multiple typical equipment.
- Prepare and verify function performance test forms.
- Conduct functional testing on all major equipment and use the sampling method for all multiple typical equipment.
- Witness and verify a percentage of the Test & Balance work.
- Verify documentation and systems operation training of maintenance staff.
- Complete and provide a facilities operations and maintenance plan (systems manual).
- Complete and provide a digital copy of the final commissioning report.
- Assist in LEED online reporting and documentation.

### Enhanced Commissioning Tasks

- Review contractor submittals
- Verify inclusion of systems manual requirements in construction documents.
- Verify inclusion of operator and occupant training requirements in construction documents.
- Verify systems manual updates and delivery.
- Verify operator and occupant training delivery and effectiveness.

- Verify seasonal testing.
- Review building operations 10 months after substantial completion.
- Develop an on-going commissioning plan.

The commissioning plan is incorporated and updated through the design process until the completion of the project as follows:

	Design Team	Contractor	Owner
Step 1: Identifying project needs	X		X
Step 2: Documentation	X	X	X
Step 3: Testing & Verification	X	X	X
Step 4: Adjustments		X	
Step 5: Training	X	X	X

Step 1: Identifying project needs

- Start the commissioning at the programming phase; continue during design and construction phase.
- Identify the design content and basis for design.
- Identify the desired outcome.
- Establish roles, responsibilities and expectations.

Step 2: Documentation: Provide clear and concise directions to the contractor.

- Provide a commissioning specification section.
- Establish contractor’s qualifications.
- Establish contractor’s responsibility.
- Document roles and responsibilities of other team members.

Step 3: Testing and Verification: Review test results.

- Verify and review component level test results.
- Verify and review system test results after balancing.
- Verify and review intersystem test results.

#### Step 4: Adjustments: Review adjustment results.

- Verify and review post occupancy adjustments to accommodate users' needs.
- Verify and review optimize system efficiency test results.

#### Step 5: Training: Assure meaningful training.

- Assure video-taped classroom and walk-through sessions.
- Review and randomly observe start-up and testing.

## SITE LAYOUT

### Identification and access to main public entrance

We propose to maintain the primary layout of the site as currently developed and accepted in the Site Development Permit. The adjustment we propose in our conceptual plan is to relocate the Public Lobby to the 2<sup>nd</sup> level of the building which allows for clear identification and access to the public entrance to the facility. Although off-street parking is provided for the facility, it is likely that anyone from the community or general public would park along Nobel Drive to visit this fire station. With the public entry facing Nobel, it is clearly identifiable from this primary roadway as well as the sidewalks. Access will be provided to the public entrance utilizing stairs and sloping sidewalks in compliance with ADA standards.

### Landscape Integration with Building Design

Our landscape design will follow closely to the plan developed in the Bridging Documents and accepted as part of the Site Development Permit. We will work with PW staff to make adjustments as necessary to comply with the Fire Station standards that require landscaping to be 5' away from the building. Our landscape plan will utilize drought tolerant plants to integrated with the sustainable nature of the entire facility design.

### Site Layout Adjustments to Consider

Our team has reviewed the site layout and storm water treatment system in the bridging documents. We would propose to review options to storm water treatment system that would utilize underground storage and modular wetlands in lieu of the concrete bio-basins contemplated. This modification would allow for the concrete basins on the south to be eliminated in favor of planted slopes and the potential to eliminate some or all of the retaining walls on the south side of the parking area. This solution is a more cost effective design for initial construction cost as well as long term maintenance and ownership costs. The storm water would still leave the site and drain to existing basin as noted in the RFP documents.

## PROGRAMMATIC/DESIGN ENHANCEMENTS

1. The Bridging Document design indicates a sloping slab of 1.13 feet across the east-west length of the Apparatus Room. This DB Team proposes to provide a slab at approximately elevation 303.50 around the slab perimeter while still providing sufficient slope to the floor drains at the Apparatus Bays. This will result in the Fire Apparatus being parked in a level condition, alignment of the floor with the adjacent support spaces, and alignment of the exterior doors around the facility. We have reviewed the Civil plans and will provide minor adjustments to grading to facilitate this design. We are fairly certain the Fire Department will not want to have Apparatus parked on a sloping slab and a sloping slab will not work properly for the required drainage as noted in the Fire Station Standards.
2. Provide the appropriate number of lockers in the Turnout Locker Room to meet the current Fire Station standards for the proposed number of fire fighters and medics.
3. Provide a Wash Room directly adjacent to the Turnout Locker Room, adjacent to where the apparatus will park with direct access into the Turnout Locker Room for convenience.
4. Provide a restroom with direct access from the Apparatus Bay floor for convenience and use when returning from a run minimizing potential to contaminate the “living areas” of the facility.
5. Provide properly sized Main Electrical Room with double doors to meet SDG&E requirements for the size of service
6. Provide a Fire Riser Room per Fire Station Standards.
7. Provide a Water Heater/Utility Room as support services.
8. Provide a better functioning and accessible Workshop for the Apparatus support.
9. Provide a large enough Hose Storage Room which can accommodate storage racks for hoses and breathing air equipment.
10. Provide a small Day/Training Room on lower level for personnel to have direct access from the Apparatus Bay if desired. If not desired by fire personnel, this space can be utilized for other desired support functions.
11. Relocate the Fitness Room to space with concrete walls for better durability and to minimize maintenance requirements.

12. Relocate the public entry to the second floor for higher visibility, safer access, and convenience to the public from Nobel Drive.
13. Relocate the Watch Room to the second floor which allows for better views to the exterior while bringing in more natural daylight, and provides for visual connections to the entire Apparatus Bay floor through windows in concrete wall.
14. Provide a restroom on the second level to support the Watch Room, Fitness Room, and Public Entry.
15. Provide a functioning Communication Room which meets the current Fire Station Standards and allows for future expansion if necessary.
16. Provide revised storm water storage and treatment system that minimizes long term cost of maintenance in compliance with City standards. This potential design solution also eliminates infrastructure without giving up performance or functionality of the overall system.
17. Provide cast-in-place concrete walls for facility rather than tilt-up panels which have improved structural integrity and eliminates the requirement for numerous sealant joints that require maintenance and replacement every 5 – 10 years.
18. Provide porcelain pavers on pedestals over waterproofing system at 3<sup>rd</sup> level patio for durability and ease of maintenance. Pavers can be lifted to clean under them where the waterproof/roof membrane provides slope to drain and protection of apparatus bay below.
19. Provide trespass casework with stainless steel countertop at exterior barbeque island for durability and low maintenance.
20. Provide ThyssenKrupp “synergy” elevator similar to that recently installed at FS#17. This elevator does not require a machine room, it takes up less floor space and utilizes regenerative drive technology that reduces energy cost.
21. We are providing City Standard vehicle exhaust extraction system, Plymovent, utilizing local representative, AAIR Purification.
22. By using subsurface Modular Wetland Systems (MWS) we are able to reduce the grading on the south side of the structure and reduce the grading footprint to show more of the natural habitat. We are also able to reduce the slopes and retaining walls on the south side of the site with the removal of the large bio filtration basins. These design enhancements will help the aesthetics of the site and vulnerability to graffiti.

The RABC-ECC JV Design-Build Team has endeavored to provide our technical solutions for the complete design and construction of the Fire Station #50, highlighting areas that are of most importance to the City as presented in the RFP, and bringing our most talented personnel to this effort.



**LEED v4 for BD+C: New Construction and Major Renovation**  
Project Checklist

**Exhibit 3**

Project Name: North University City Fire Station 50  
Date: 11/16/2017

Y	?	N		
			<b>1</b>	Credit Integrative Process 1

<b>5</b>	<b>0</b>	<b>11</b>	<b>Location and Transportation</b>		<b>16</b>
			N/A	Credit LEED for Neighborhood Development Location	16
			1	Credit Sensitive Land Protection	1
			2	Credit High Priority Site	2
			1	Credit Surrounding Density and Diverse Uses	5
			5	Credit Access to Quality Transit	5
			1	Credit Bicycle Facilities	1
			1	Credit Reduced Parking Footprint	1
			1	Credit Green Vehicles	1

<b>9</b>	<b>1</b>	<b>0</b>	<b>Sustainable Sites</b>		<b>10</b>
			Y	Prereq Construction Activity Pollution Prevention	Required
			1	Credit Site Assessment	1
			2	Credit Site Development - Protect or Restore Habitat	2
			1	Credit Open Space	1
			3	Credit Rainwater Management	3
			2	Credit Heat Island Reduction	2
			1	Credit Light Pollution Reduction	1

<b>8</b>	<b>0</b>	<b>3</b>	<b>Water Efficiency</b>		<b>11</b>
			Y	Prereq Outdoor Water Use Reduction	Required
			Y	Prereq Indoor Water Use Reduction	Required
			Y	Prereq Building-Level Water Metering	Required
			2	Credit Outdoor Water Use Reduction	2
			6	Credit Indoor Water Use Reduction	6
			2	Credit Cooling Tower Water Use	2
			1	Credit Water Metering	1

<b>18</b>	<b>4</b>	<b>11</b>	<b>Energy and Atmosphere</b>		<b>33</b>
			Y	Prereq Fundamental Commissioning and Verification	Required
			Y	Prereq Minimum Energy Performance	Required
			Y	Prereq Building-Level Energy Metering	Required
			Y	Prereq Fundamental Refrigerant Management	Required
			3	Credit Enhanced Commissioning	6
			12	Credit Optimize Energy Performance	18
			1	Credit Advanced Energy Metering	1
			2	Credit Demand Response	2
			3	Credit Renewable Energy Production	3
			1	Credit Enhanced Refrigerant Management	1
			2	Credit Green Power and Carbon Offsets	2

<b>5</b>	<b>3</b>	<b>5</b>	<b>Materials and Resources</b>		<b>13</b>
			Y	Prereq Storage and Collection of Recyclables	Required
			Y	Prereq Construction and Demolition Waste Management Planning	Required
			5	Credit Building Life-Cycle Impact Reduction	5
			1	Credit Building Product Disclosure and Optimization - Environmental Product Declarations	2
			1	Credit Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
			1	Credit Building Product Disclosure and Optimization - Material Ingredients	2
			2	Credit Construction and Demolition Waste Management	2

<b>10</b>	<b>4</b>	<b>2</b>	<b>Indoor Environmental Quality</b>		<b>16</b>
			Y	Prereq Minimum Indoor Air Quality Performance	Required
			Y	Prereq Environmental Tobacco Smoke Control	Required
			2	Credit Enhanced Indoor Air Quality Strategies	2
			2	Credit Low-Emitting Materials	3
			1	Credit Construction Indoor Air Quality Management Plan	1
			1	Credit Indoor Air Quality Assessment	2
			1	Credit Thermal Comfort	1
			2	Credit Interior Lighting	2
			2	Credit Daylight	3
			1	Credit Quality Views	1
			1	Credit Acoustic Performance	1

<b>4</b>	<b>2</b>	<b>0</b>	<b>Innovation</b>		<b>6</b>
			3	Credit Innovation	5
			1	Credit LEED Accredited Professional	1

<b>3</b>	<b>0</b>	<b>1</b>	<b>Regional Priority</b>		<b>4</b>
			1	Credit Regional Priority: Renewable Energy	1
			1	Credit Regional Priority:	1
			1	Credit Regional Priority: Outdoor Water Use Reduction	1
			1	Credit Regional Priority: Indoor Water Use Reduction	1

			<b>62</b>				<b>14</b>				<b>34</b>	<b>TOTALS</b>	Possible Points: <b>110</b>
--	--	--	-----------	--	--	--	-----------	--	--	--	-----------	---------------	-----------------------------

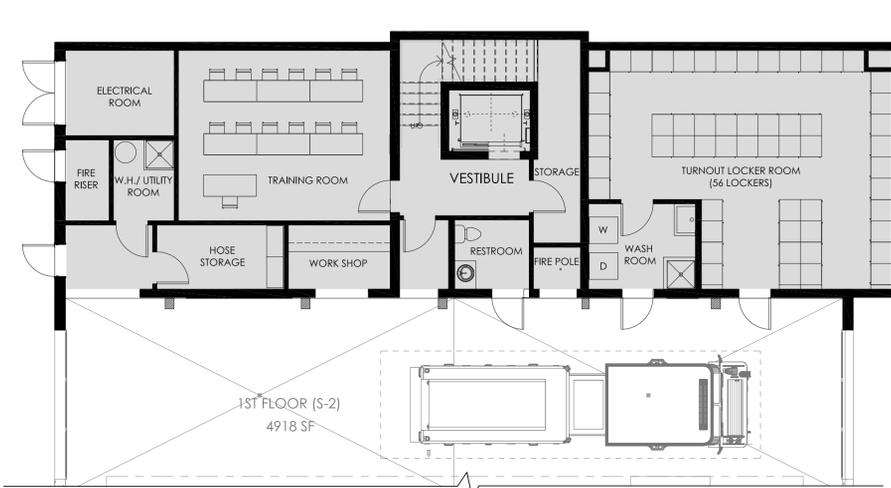
Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

Innovation: Wastewater reduction Pot. Inn: PBT Source Control  
 Innovation: Design for active occupants  
 Exemp: Renewable Energy Production  
 Potential exemp: Enh. Indoor Air Qual. Strat.  
 Potential exemp: Heat Island

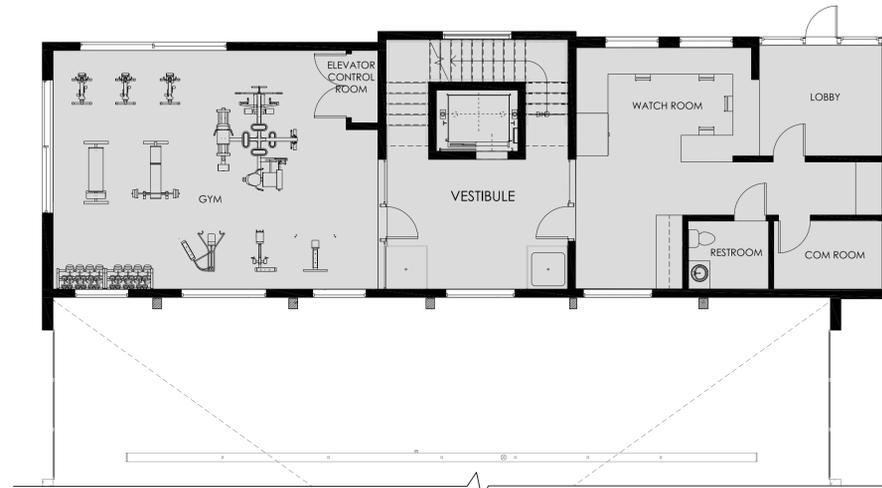
**VALUE ADDED PROPOSED REVISIONS**

DEVELOPED BASED ON FIRE STATION + FACILITY DESIGN & CONSTRUCTION STANDARDS, AND FROM RECENT EXPERIENCE IN WORKING ON SIMILAR CITY OF SAN DIEGO FIRE STATIONS.

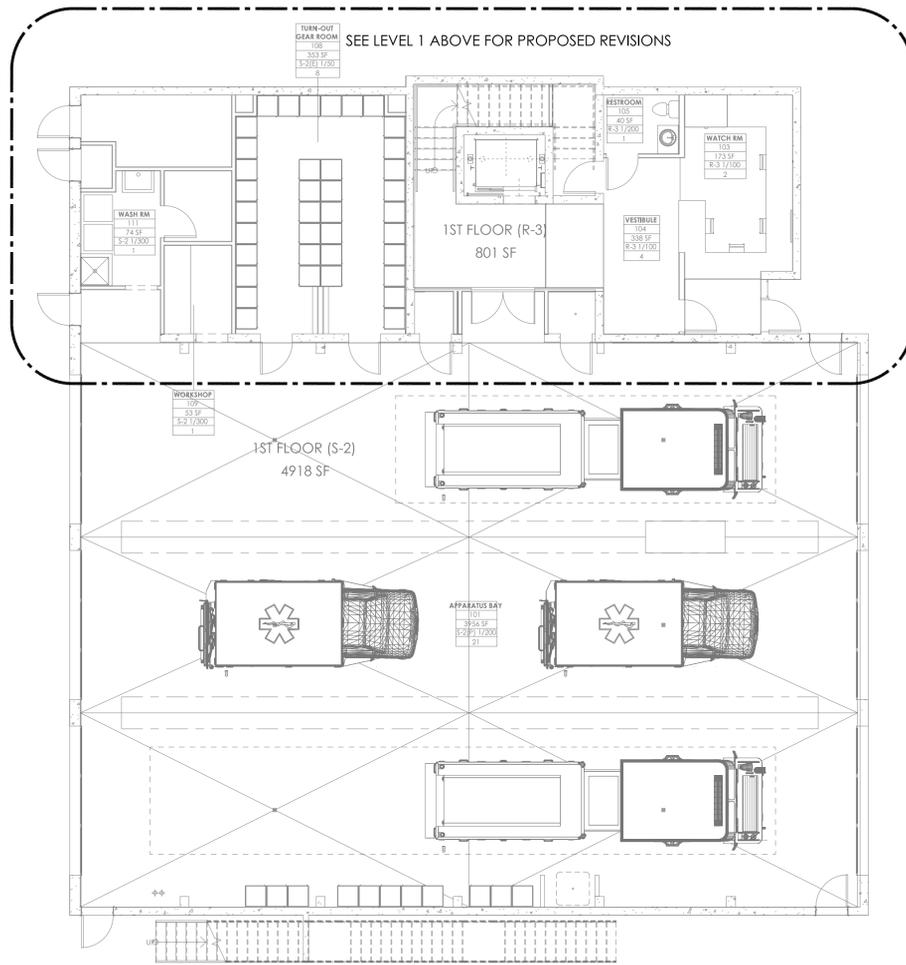
- RE-ARRANGED ELECTRICAL ROOM ( REQUIRED DOUBLE DOORS AND ADDITIONAL SPACE)
- ADDED FIRE RISER ROOM AND HOSE STORAGE ROOM TO MEET STANDARDS
- ADJUSTED WORKSHOP TO INTEGRATE BETTER WITH THE APP BAY
- ADDED A WATER HEATER/UTILITY ROOM
- ADDED A RESTROOM OFF THE APP BAY
- RELOCATED TURNOUT LOCKER ROOM AND ADDED 20 LOCKERS FOR A TOTAL OF 54 LOCKERS BASED ON PERSONNEL NEEDS.
- RELOCATED WASH ROOM NEXT TO TURNOUT LOCKER ROOM
- ADDED SMALL DAY ROOM/TRAINING ROOM ON THE LOWER LEVEL WHILE A LARGE DAY ROOM REMAINS ON THE UPPER LEVEL
- INCREASED STORAGE ROOM SIZE UNDER STAIRS ON THE LOWER LEVEL
- RELOCATED THE PUBLIC ENTRY, LOBBY AND WATCH ROOM TO 2ND LEVEL TO ACCOMMODATE STREET LEVEL ACCESS AND ENHANCED DAYLIGHT/VIEWS
- WATCH ROOM MAINTAINS PROXIMITY TO RESTROOM, AND VISIBILITY TOWARDS APP BAY BELOW.
- RELOCATED COM CLOSET FROM UNDER STAIRS WITH LIMITED ACCESS TO 2ND LEVEL & SIZED TO MEET STANDARDS
- RELOCATED FITNESS ROOM ACROSS THE ELEVATOR WHERE CONCRETE WALLS WOULD ALLOW FOR MORE DURABLE WALL SURFACES AND LOCATES FITNESS OVER SPACES THAT ARE NOT OCCUPIED FOR REDUCED POTENTIAL SOUND PROBLEMS.



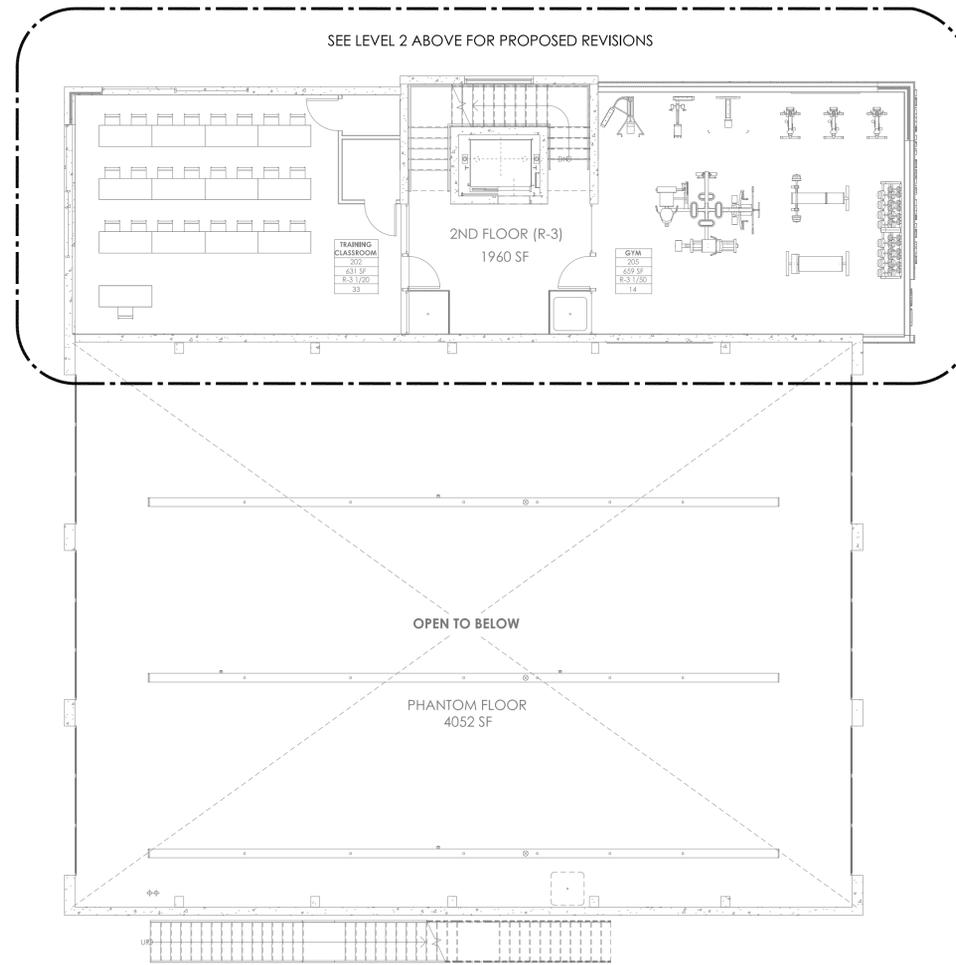
1 LEVEL 1 - VALUE ADDED PROPOSED REVISIONS  
1/8" = 1'-0"



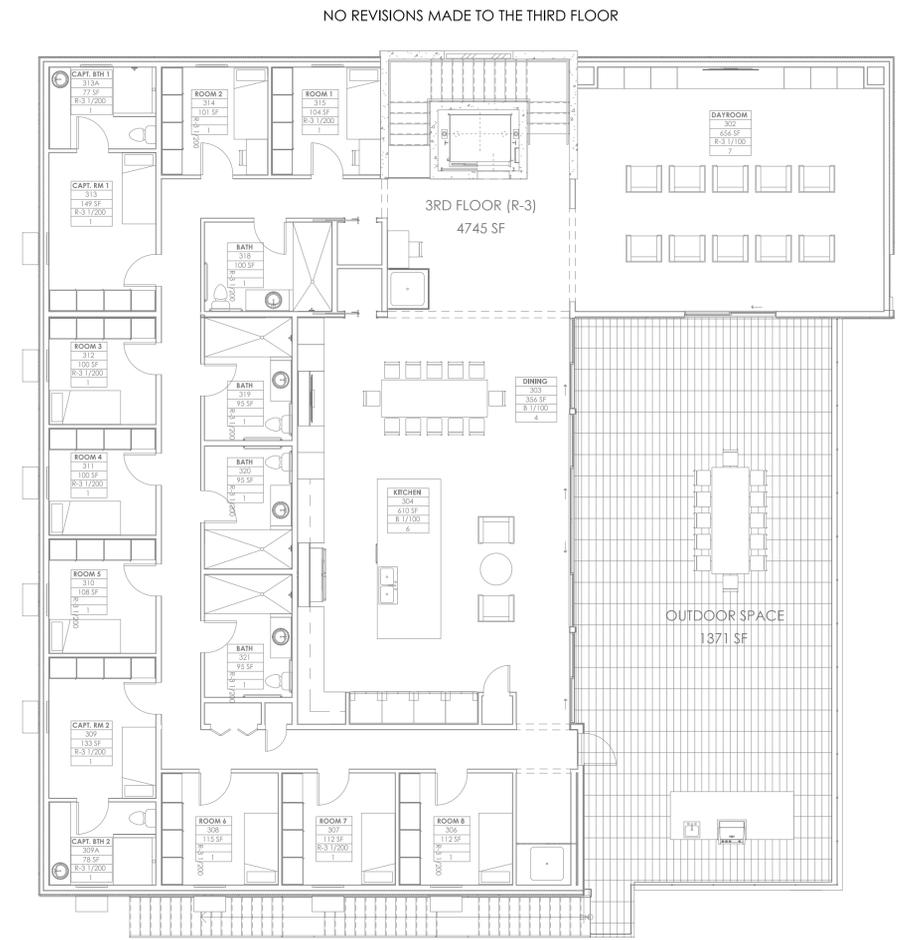
2 LEVEL 2 - VALUE ADDED PROPOSED REVISIONS  
1/8" = 1'-0"



1 LEVEL 1 - EXISTING  
1/8" = 1'-0"



2 LEVEL 2 - EXISTING  
1/8" = 1'-0"



3 LEVEL 3 - EXISTING  
1/8" = 1'-0"

**EXHIBIT 1**

**VALUE ADDED PROPOSED REVISIONS - FINISHES**

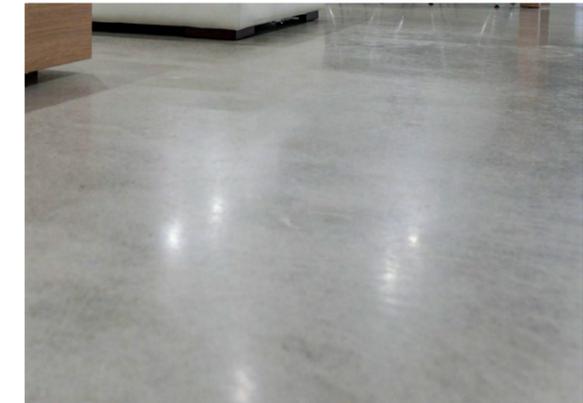
PROPOSED FINISHES MATCH EXHIBIT 1 PLANS AND ARE IN COMPLIANCE WITH BRIDGING DOCUMENTS, FIRE STATION + FACILITY DESIGN & CONSTRUCTION STANDARDS, AND FROM RECENT EXPERIENCE IN WORKING ON SIMILAR CITY OF SAN DIEGO FIRE STATIONS.

LEVEL		ROOM NAME		FINISHES																								
				BASE		FLOOR						WALL				CEILING				CASEWORK								
				4" VINYL TILE	NONE	SPORTS FLOORING	LUXURY VINYL TILE (6" X 36")	POLISHED CONCRETE	SEALING CONCRETE	PORCELAIN TILE	STEEL W/ CONCRETE PAN FILL	PORCELAIN PAVER ON PEDESTALS	GYP. BOARD - PAINT	IMPACT RESISTANT GYP. BOARD - PAINT	F.R.P. 8'-0" HIGH	ACOUSTICAL WALL PANEL	CONCRETE - SEALED	CERAMIC TILE	CONCRETE - PAINT	GYP. BOARD - PAINT	T&G WOOD	2 X 2' ACOUSTICAL SUSPENDED CEILING SYSTEM	PLASTIC LAMINATE	SOLID SURFACE W/ ANTI-D RIP EDGE	STAINLESS STEEL W/ ANTI-D RIP EDGE & INTEGRAL SINK	BIRCH WOOD	PLASTIC LAMINATE	BIRCH WOOD
LEVEL 1	APPARATUS BAY																											
LEVEL 1	FIRE POLE																											
LEVEL 1	VESTIBULE																											
LEVEL 1	RESTROOM																											
LEVEL 1	WASH ROOM																											
LEVEL 1	TRAINING ROOM																											
LEVEL 1	STO																											
LEVEL 1	STAIR																											
LEVEL 1	W.H.																											
LEVEL 1	TURNOUT LOCKER ROOM																											
LEVEL 1	WORKSHOP																											
LEVEL 1	HOSE STORAGE																											
LEVEL 1	FIRE RISER																											
LEVEL 1	ELECTRICAL																											
LEVEL 2	VESTIBULE																											
LEVEL 2	STAIR																											
LEVEL 2	LOBBY																											
LEVEL 2	WATCH ROOM																											
LEVEL 2	COM ROOM																											
LEVEL 2	RESTROOM																											
LEVEL 2	ELEVATOR CONTROL RM																											
LEVEL 2	GYM																											
LEVEL 3	VESTIBULE																											
LEVEL 3	STAIR																											
LEVEL 3	DAYROOM																											
LEVEL 3	DINING																											
LEVEL 3	KITCHEN																											
LEVEL 3	STO																											
LEVEL 3	FIRE POLE																											
LEVEL 3	ROOM 8																											
LEVEL 3	ROOM 7																											
LEVEL 3	ROOM 6																											
LEVEL 3	CAPT. RM 2																											
LEVEL 3	CAPT. BTH 2																											
LEVEL 3	ROOM 5																											
LEVEL 3	ROOM 4																											
LEVEL 3	ROOM 3																											
LEVEL 3	CAPT. RM 1																											
LEVEL 3	CAPT. BTH 1																											
LEVEL 3	ROOM 2																											
LEVEL 3	ROOM 1																											
LEVEL 3	STO																											
LEVEL 3	STO																											
LEVEL 3	BATH																											
LEVEL 3	BATH																											
LEVEL 3	BATH																											
LEVEL 3	BATH																											
LEVEL 3	STO																											
LEVEL 3	MECH																											
LEVEL 3	HALLWAY																											
LEVEL 3	TERRACE																											

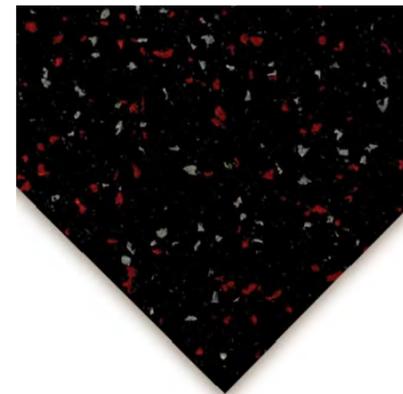
EXTERIOR FINISH SCHEDULE	
TYPE	FINISH
WALL CONSTRUCTION/ FINISH	CAST IN PLACE CONCRETE - ARCHITECTURAL FINISH WITH REVEALS INTEGRAL COLOR
	WOOD FRAME W/ ALUMINUM BREAK METAL PANEL - KYNAR COATING
	WOOD FRAME W/ 7/8" THREE COAT CEMENT PLASTER - SMOOTH ACRYLIC FINISH
DOOR/DOOR FRAME	ALUMINUM DOOR SYSTEM
	ALUMINUM SLIDING DOOR SYSTEM
	HOLLOW METAL
WINDOWS	ALUMINUM WINDOW SYSTEM - OPERABLE
	ALUMINUM WINDOW SYSTEM - FIXED
SHADING DEVICE	ALUMINUM
ROLL UP GARAGE DOOR	PAINTED RED
ROOF (UPPER)	STANDING SEAM PVC ROOF
ROOF (LOWER)	PVC ROOF
ROOF EDGE/FLASHING	PVC COATED
EXPOSED STRUCTURE	WOOD BEAM
STAIRS	STEEL - GALVANIZED W/ DIAMOND PLATE STEEL TRADES
RAILING	PAINTED STEEL W/ STAINLESS STEEL CABLE
SIGNAGE	ALUMINUM
	ALUMINUM - PAINTED RED
RETAINING WALL	CAST IN PLACE CONCRETE - INTEGRAL COLOR
FENCE	DECORATIVE METAL - PREFINISHED



PORCELAIN PAVER



POLISHED CONCRETE FLOOR



SPORTS FLOORING



STANDING SEAM PVC ROOFING

① MATERIAL PHOTOS

EXHIBIT 2

## 6.0 CONSTRUCTION PLAN

### CONSTRUCTION APPROACH AND METHODS

The RABC-ECC design and construction personnel will execute this project utilizing a team



our  
**one  
team  
approach**

approach. The development of our team starts with the selection of our design partners and major subcontractors in a coordinated effort to respond to the RFP requirements creating our approach to integrating the City Standards with the Bridging Document design intent. Utilizing major subcontractors in the design phase where they have worked with the JV and the designers to coordinate design provides for efficient and streamlined transition into the construction process. Our team will not have to finalize the design and bid out the major elements of work prior to starting construction. Our team will be fully coordinated and prepared to execute the construction upon final design approval and permitting.

Our project superintendent will be involved in the final design coordination from 60% - 100% design. We will utilize his experience and lessons learned from Fire Station #17 to assist with constructability reviews and coordination. This approach allows the Superintendent to have a full understanding of the final design coordination with the City, design team, and major subcontractors for efficient transition into construction.



One advantage the JV team has is that ECC will complete the structural concrete and rough carpentry work as an integral part of the JV team. From a practical and feasibility standpoint, this site is not a good candidate for tilt-up wall panels. Therefore, our design utilizes cast-in-place concrete walls for the primary structural frame and wood framing for the upper levels of the facility. By self-performing the major structural components of the facility, ECC can drive the schedule for the JV to meet critical dates and objectives. ECC will coordinate the structural shell work where walls on the north side of the facility are completed to allow framing of the second-floor level while taller walls are completed for the apparatus bay in time to allow for framing of the third-floor level and above. Rough-in of the various systems and weatherproofing of the facility will follow similar approach with finishes following in the same

manner. This method of facility construction makes for an efficient and effective flow of work for all trades to complete the work on time and within budget.



## PLAN FOR PHASING OF CONSTRUCTION ACTIVITIES

The JV team has carefully considered the phasing of construction activities to best suit the project requirements and constraints. Due to the environmentally sensitive areas on and adjacent to the site, all grading and site development work will be closely coordinated with our Project Biologist to insure compliance with all environmental requirements of the Site Development Permit and RFP.

We plan to submit for grading and retaining wall permits separate from the building permit to allow development of the site to proceed while building permitting is finalized. The first “phase” of the project involves the clearing of the area of the site to be developed. Following site clearing, the remediation subcontractor shall come in and salvage top soil as required by the Restoration and Revegetation Plan integral to the Mitigated Negative Declaration. Once the required top soil is salvaged, the rough grading will commence with focus on cutting the north slopes for retaining walls and developing fill slopes on the south side of the project. Concurrent with the rough grading process, we will start the remediation and revegetation work to the south to restore the habitat as quickly as possible. During construction of the fire station facility, the Project Biologist will monitor the work with our project superintendent to insure no damage occurs to the remediated areas to the south.

During finalization of building schematic design review to meet Fire Station Standards, our team plans to review options with City personnel for storm water storage & treatment to eliminate the large bio-basins in favor of under-pavement storage and treatment with modular wetland units. If agreeable with the Deputy City Engineer, we are confident this option will provide less long-term maintenance for the Fire Department, a reduction of the impact on native vegetation to the south and still meeting all City requirement for storm water management and treatment. If the Deputy City Engineer does not concur with this approach, we are prepared to provide the bio-basins as shown on the bridging documents, which will modify the work phasing noted above slightly by constructing the CIP bio-basins and south retaining walls prior to the start of remediation and revegetation work to the south.

Upon completion of rough grading operations, we will construct site retaining walls and have those completed on or about the time we obtain final building permit. Upon completion of the retaining walls and building permits, we will begin the process of constructing the new fire station. Concurrent with station construction, our team will coordinate with PW and PUD to make all utility tie-ins required for the facility in a timely manner. We understand the time required to coordinate and facilitate permanent power & gas service with SDG&E. We will start that process very early in the design phase and continue to pursue power & gas to the site, resulting in assured availability to meet the building testing and acceptance process.

We appreciate the importance of Tel/Data infrastructure and operations for the fire station. Our experienced team will coordinate this effort in the design process and continue to monitor it for timely completion to insure signals are available for testing and acceptance of the fire station alerting system and other required communication and signal systems.

## GENERAL PLAN FOR FUNCTIONAL TESTING AND START-UP

The general plan for functional testing and start-up will be part of the overall Commissioning Plan provided by the Commissioning Agent during project design. The LEED Design Team will follow the general plan for the testing and start-up, the details of which are outlined below:

**Start-Up/Pre-Functional Checklists:** Coordinate start-up plans and documentation formats, including providing RABC-ECC with pre-functional checklists to be completed during the startup process. Manufacturer's start-up checklists and other technical documentation guidelines may be used as the basis for pre-functional checklists.

The Start-Up/Pre-Functional Checklist will help verify that the systems are complete and operational, so that the functional performance testing can be scheduled.

- Pre-functional Checklist - a list of items to inspect and elementary component tests to conduct to verify proper installation of equipment, provided by the Commissioning Agent to the contractor. Pre-functional checklists are primarily static inspections and procedures to prepare the equipment or system for initial operation (e.g., belt tension, oil levels OK, labels affixed, gages in place, sensors calibrated, etc.).
- Some pre-functional checklist items entail simple testing of the function of a component, a piece of equipment or system (such as measuring the voltage imbalance on a three-phase pump motor of a chiller system). The word "pre-functional" refers to before functional testing. Pre-functional checklists augment and are combined with the manufacturer's start-up checklist.

**Functional Performance Test** – This is the test of the dynamic function and operation of equipment and systems using manual (direct observation) or monitoring methods. Functional testing is the dynamic testing of systems (rather than just components) under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint).

- Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc. The systems are run through all the control system's sequences of operation and components are verified to be responding as the sequences state.

- Traditional air or water test and balancing (TAB) is not functional testing, in the commissioning sense of the word. TAB's primary work is setting up the system- flows and pressures as specified, while functional testing is verifying that which has already been set up. The Commissioning Agent develops the functional test procedures in a sequential written form, coordinates, oversees and documents the actual testing, which is usually performed by the installing contractor or vendor.
- Functional Performance Tests are performed after pre-functional checklists and startup are complete.

## PROPOSED SAFETY PROGRAM

RABC-ECC's goal is to create a safety culture that believes from the top down that zero accidents is an attainable goal. Although both Joint Venture firms already have an excellent safety record, we are not content with the status quo and believe that it is not enough to meet the minimum requirements of the applicable safety standards. A robust safety culture will continue seeking methods to progressively improve the safety program. Our ultimate objective is to send every worker home to their families each night in the same condition that they arrived at the start of their shift. To that end, our safety program relies on a high level of employee involvement. The on-site Project Manager (PM), Superintendent, and Engineers all complete 30-hour OSHA safety training and provide additional safety support during the normal course of their duties. Additionally, a corporate safety officer from one of the firms will make monthly jobsite visits and as needed for the project.

In instances where productivity and safety may conflict, everyone on the team knows that safety takes precedence and the work plan will require adjustment so that the work can be done in a safe manner. Project superintendents conduct weekly safety meetings on all projects and specific meetings for such items as deep excavations, crane utilization, and confined space entry.



The plan to ensure open discussion between project managers, superintendents, and subcontractors on the jobsite, the superintendent holds a weekly foreman's meeting that start and end with safety coordination. Expectations are communicated in these meetings by using a 3-week look-ahead schedule to plan for highly hazardous activities such as deep excavations or use of cranes. Advanced planning and coordinating with all on-site participants any possible safety concerns is a way to eliminate unsafe conditions.

RABC-ECC requires all subcontractors to follow the Project Safety Plan, including the filing of Activity Hazard Analysis for all work activities anticipated for the project.

All certifications and qualifications of subcontractor safety personnel shall be reviewed with the Superintendent at the project safety orientation prior to any work starting on the project.

Our firms have both successfully implemented our safety program in the execution of projects. Neither firm has ever received an OSHA safety citation or had any major incidents on our projects.



CA Workers' Compensation Experience Modification Rating for the past five (5) years is as follows:

<u>Firm</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
RABC	0.72	0.64	0.64	0.64	0.68
ECC	0.70	0.72	0.77	0.83	0.83

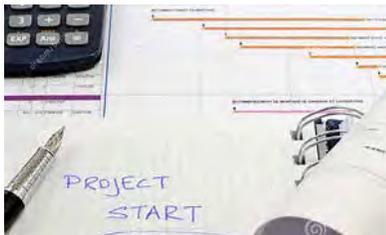
### PROPOSED EMERGENCY RESPONSE PLAN

RAB-ECC will develop an Emergency Response Plan specifically for the Fire Station #50 site. The Emergency Response Plan will, at a minimum, address the following:

- Plan will be site specific
- It will consider all stages of the construction project and the ability of emergency services to attend and access the point of emergency
- It will make provision for issues including, but not limited to:
  - plant and vehicle rollover
  - contact with powerlines
  - excavation collapse
  - scaffold/structure collapse
  - sudden incapacity and immobilization of workers (particularly in locations that are difficult to access)
  - emergency service vehicle access to the site
- It will include details of:
  - nearest medical facilities
  - first aid provisions
- Include procedures for when the relevant emergency services may not respond or be able to deal with the emergency
- Procedures are regularly reviewed and accessible to all workers at the site.

The project office trailer will be well equipped with safety kits, body fluid kits, and other items necessary to respond to an emergency on the project. Additionally, all required postings will be displayed at the office trailer and throughout the site. The postings will include steps to take in the case of an emergency, location of nearest medical facility, and instructions to contact 911.

The site shall always be equipped with a spill kit and additional storm water protection materials in the event something should occur requiring a prompt response to an issue related to storm water management during construction operations.



## PROPOSED CONSTRUCTION SCHEDULE

Enclosed is a milestone schedule to demonstrate how we plan to execute the project. A final construction schedule will be developed concurrent with the design process.

The proposed schedule demonstrates that the project can be successfully completed with the 600-workday (870 calendar days) duration anticipated by the City. The schedule shows design and permitting for grading and site retaining walls starting after the City review of 30% Design Development package. We are confident that the site layout will not change in any significant manner after 30% DD coordination with the City, making it safe to proceed with obtaining grading permit and permit to construct retaining walls concurrent with the finalization of building design and permitting. In addition to getting the project moving, we are doing this is to allow for site grading and environmental remediation work right after bird nesting period ending 9/15/18 and prior to start of nesting again in February of 2019.

Kenny Kubiak developed this proposal schedule based upon his experiences helping on the Chollas WOF D/B project and his current experience working with PW and Fire Department personnel to construct and turnover Fire Station #17. Kenny is allowing sufficient time for testing of systems, final inspections, and close-out procedures to obtain substantial completion and move-in for the Fire Department. This proposal schedule includes the 90-day Landscape Maintenance period and sufficient inclement weather days for the anticipated work periods.

The RABC-ECC project personnel will work closely with the City personnel to further develop and finalize this schedule in a coordinated manner to complete the project as quickly and efficiently as possible.

## COMMUNITY IMPACT (NOISE AND POLLUTION)

We strive to maintain a good relationship with the community on every project we build. Dust will be kept to a minimum by watering during earthwork activities and to control dust from construction traffic. The JV will provide street sweeping as necessary to insure we maintain a clean project site, including the adjacent streets. The project superintendent will make sure that all JV and subcontractor personnel abide by prescribed construction start times prescribed in the City regulations. We will not allow diesel engines to be started or operated prior to 7:00 AM in compliance with City standards. We will not allow the use of loud radios on the project site. Typical Construction noise will be general and intermittent, and won't be a community problem.



RABC-ECC has found that the best way to limit the impact on adjacent neighborhoods is to:

- Maintain a clean site, free of trash and debris that might be blown onto adjacent properties.
- During pre-construction, develop a haul route that will minimize traffic through residential and daily business operations.
- Perform work during normal work hours, except when necessary for critical operations, and then proper authorities will be notified.
- Maintain a strict schedule, especially on tight sites to ensure that traffic and deliveries will not cause traffic delays and back-up.

The project team will work with PW staff and City Traffic Department to develop traffic control plans for work within the right-of-way to minimize impact to traffic flow due to construction activities. The utilities are in the street and we must make connections to them but with careful planning and considerations, this work can be accomplished with minimal, if any, disruption to the community. We will plan well in advance for all work in the right-of-way and make signs to notify the community of upcoming activity, so they can plan accordingly.

### Site Preparation

#### Non-Native Species Treatment

Areas with non-native grassland and disturbed land will be dethatched and raked. Large non-native trees and ornamental plants, specifically Mexican fan palm (*Washingtonia robusta*) and vanilla-scented wattle (*Acacia redolens*), will be removed mechanically. Cut material will be removed from the project site and disposed of properly. Native plants present within the restoration area will be avoided during vegetation clearing. Salvage and application of top soil will be coordinated with the earthwork subcontractor and overseen by the Project Biologist.

Erosion Control Measures

If the project biologist deems it necessary, bio wattles and/or silt fencing will be installed to protect container plants and seed.

Topsoil Salvage and Placement

After the construction site has been cleared and grubbed, 8” of top soil will be salvaged from areas of native grassland, coastal sage scrub, and ornamental plantings and directly transported and spread into the disturbed revegetation and restoration areas that have been cleared and transported directly into the restoration and revegetation areas.

Irrigation Installation

A temporary, above-grade irrigation system will be installed within the restoration and revegetation area to provide supplemental water to the project site and encourage plant and seed growth during establishment. Following successful completion of the project, above ground portions of the irrigation system will be removed.

Installation of Plant and Seed

Following completion of irrigation installation, native plants and seed material within the 0.949-acre revegetation and restoration area will begin. Plant material will be installed as two-inch to one-gallon container stock and seed will be applied via hand broadcasting and raking in. Container plants and seed will be sourced from material collected within 20 miles of the project site, to the extent feasible. Plant installation will be done in two phases: installation of container plants and hand seeding. The plant and seed palette listed below will be identical for all areas. The project biologist may direct the installation of certain species in particular areas.

Scientific Name	Common Name	Approximate Container Planting Density (plants/acre)	Approximate Seed Density (lbs/acre)
<i>Stipa pulchra</i>	purple needlegrass	500	10
<i>Stipa cernua</i>	nodding needlegrass	250	10
<i>Allium praecox</i>	early onion	90	3
<i>Dichelostemma capitatum</i>	blue dicks	45	3
<i>Sisyrinchium bellum</i>	western blue-eyed grass	45	3
<i>Artemisia californica</i>	California sagebrush	20	--
<i>Aemispon glaber</i>	deerweed	20	--
<i>Calystegia macrostegia</i>	morning glory	10	--
<i>Salvia mellifera</i>	black sage	10	--
<i>Mimulus aurantiacus</i>	bush monkey-flower	10	3
<i>Deinandra fasciculata</i>	fascicled tarweed	--	5
<i>Nuttallanthus texanus</i>	blue toadflax	--	1
<i>Osmadenia tennella</i>	Osmadenia	--	1
<i>Pseudognaphalium biolettii</i>	bicolor cudweed	--	1
<i>Pseudognaphalium californicum</i>	California everlasting	--	1
<i>Croton setiger</i>	dove weed	--	1
<i>Daucus pusillus</i>	rattlesnake weed	--	1
<i>Laennecia coulteri</i>	Coulter's horseweed	--	1
<i>Navarretia hamata</i>	hooked navarretia	--	1
<b>Total</b>		<b>1,000</b>	<b>45</b>

### Installation of Container Plants

One-gallon sized plants will be procured. Standard horticultural practices shall be followed for this project. A hole approximately twice the size (width and depth) of the plant's root ball will be dug for each container plant. Each planting will have a recessed watering basin to aid in the capture of natural rainfall and artificial irrigation.

### Seeding

Native plant seed shall be thoroughly mixed and hand broadcast evenly across the areas. After application of the seed, the site will be raked to a depth of one-quarter inch to ensure optimal seed to soil contact.

### Monitoring Program

Monitoring will be conducted to ensure that activities are being conducted in accordance with the project plans. The restoration biologist will monitor all phases of the installation process, including site preparation (initial non-native plant removal, erosion control, and irrigation installation) and installation of plants and seed. The restoration biologist will document pre-existing site conditions by taking photos of onsite habitats in the revegetation area from designated/fixed photo documentation stations. The restoration biologist will coordinate, as necessary, during installation to provide clarifications regarding the intent of the revegetation construction documents and to address necessary field changes as they arise.

### 120-Day Plant Establishment Period

A maintenance program designed to support the establishment of native habitats by performing tasks as directed by the project biologist which may include erosion control measures, non-native weed removal, maintenance of fencing, pests, and vandalism, trash and debris removal, irrigation system maintenance, remedial planting, and reseeding if necessary. The 120-day PEP will be identical for the restoration and revegetation areas. Once installation is complete, ongoing restoration monitoring will be provided monthly throughout the 120-day establishment period. Each monitoring visit will be documented in a site observation report which will outline the status of the revegetation project and recommendations for the landscape contractor.

## **Bid Item 9 – 60-month Restoration Maintenance and Monitoring**

Following the completion of the PEP, the project will begin a maintenance period. The Restoration areas of the project will have a maintenance period of five years. HRS will perform erosion control measures (if so directed by the project biologist), non-native weed removal, maintenance of fencing, pests, and vandalism, trash and debris removal, irrigation system maintenance, remedial planting, and reseeding if necessary within the restoration areas of the site.

As a minimum, monitoring for the remainder of the 5-year maintenance and monitoring program will be performed quarterly in accordance with the restoration plan.

## **Bid Item 10 – 25-month Restoration Maintenance and Monitoring**

Following the completion of the PEP, the project will begin a maintenance period. The Revegetation Area will have a maintenance period of 25 months. Revision to Erosion control measures (if so directed by the project biologist), non-native weed removal, maintenance of

fencing, pests, and vandalism, trash and debris removal, irrigation system maintenance, remedial planting, and reseeding if necessary within the revegetation areas of the site will be performed.

### Monitoring Program

Project Biologist will provide quarterly monitoring for the remainder of the 5-year maintenance and monitoring program in accordance with the restoration plan.

### Archaeological Construction Monitoring

Dudek's cultural resources team offers highly trained, professional cross-trained archaeological monitors who are overseen by Dudek's archaeological PI's. Having one monitor conduct the archaeological and paleontological monitoring for the project provides a significant cost savings. Dudek's cross-trained monitors will be onsite for all ground-disturbing activities for archaeological monitoring and below a depth of 10 feet for paleontological monitoring, per the MMRP. If archaeological resources are observed during monitoring, the find will be secured with caution tape and the construction crew redirected while the find is evaluated. The monitor will immediately contact the API or PPI and notify the RE or BI, as appropriate, and the API or PPI will alert the MMC to the discovery. If an archaeological discovery is determined to be significant, the API will submit an Archaeological Data Recovery Program and obtain written approval from the MMC, CM, and RE.

Monitors will complete daily monitoring logs via Dudek's proprietary Kerata digital reporting system using iPads. In addition, monitors will complete daily Consultant Site Visit Records (CSVSR) forms, and these will be submitted to the CM weekly. Dudek assumes ground-disturbing activities requiring archaeological monitoring to last no more than 27 days and only one monitor per day will be necessary.

### Native American Construction Monitoring

Dudek will provide a Native American Monitor (NAM) for all ground-disturbing activities that require archaeological monitoring. The NAM will complete daily monitoring logs on Dudek's Kerata system and fill out daily CSVSR forms to be submitted to the CM weekly. Dudek assumes ground-disturbing activities requiring archaeological and/or paleontological monitoring to last no more than 75 days and only one monitor per day will be necessary.

### Combined Archaeological/Paleontological Final Monitoring Report

At the close of ground disturbing activities, Dudek will prepare a combined paleontological and archaeological memorandum summarizing the results of all phases of the archaeological and paleontological monitoring program as described above. The report will summarize the results of the records searches, include daily monitoring logs, DPR 523 forms for any newly recorded archaeological resources, and provide sufficient evidence that all paleontological resources collected during the grading monitoring program have been transferred to the appropriate museum repository.

## Bid Item 17 – Paleontological Monitoring Program

### Verification of Records Searches

Per the MMRP for the project, Dudek’s paleontological Principal Investigator (PPI) will begin by verifying that a paleontological records search was conducted by the San Diego Natural History Museum or other institution and submitting the info to MMC.

## Bid Item 18 – Biological Monitoring Program

Dudek will conduct biological monitoring activities outlined in the Mitigation Monitoring and Reporting Program. These are outlined below.

### Pre-Construction Biological Monitoring Activities (Conditions 1A-1G)

Dudek will provide biological monitoring for construction activities related to the proposed project. Prior to construction, Dudek will complete the following tasks:

- Provide a letter to the City’s Mitigation Monitoring Coordination (MMC) that a qualified Project Biologist has been retained to implement the biological monitoring program. The letter will include the names and qualifications of all personnel monitoring the project.
  - Attend one (1) pre-construction meeting to discuss the project’s biological monitoring program and biology-related mitigation measures.
- Submit required documents to the MMC that outline biology-related guidelines, ordinances, survey schedules, permit conditions or other requirements relevant to the proposed project. Present this information in a Biological Construction Mitigation/Monitoring Exhibit (BCME) to the MMC.
  - Conduct pre-construction surveys for nesting birds if construction activities occur between February 1 and September 15. The surveys shall be conducted within 10 days prior to the start of vegetation clearing. If any nesting birds are found, Dudek will prepare a report documenting the results of the survey and necessary measures per the City’s Biology Guidelines and state and federal regulations to ensure there is no take of avian species. This task assumes up to two (2) pre-construction nesting bird surveys.
  - Monitor the installation of construction fencing around the sensitive biological habitats and verify compliance with project conditions shown on the BCME. The Project Biologist will also flag sensitive species and habitat and establish appropriate buffers to ensure avoidance of these resources.
  - Conduct an educational training with the construction crew that outlines the mitigation measures to protect sensitive biological resources. This task assumes up to two (2) educational trainings with construction personnel.

### Biological Monitoring During Construction (Conditions IIA-IIB)

The Project Biologist, or other approved individuals, will monitor construction activities. During construction monitoring, the biological monitor will document compliance with permit conditions regarding unauthorized impacts, special-status species avoidance, active bird nest avoidance, construction fencing, and dust control measures.

This proposal includes daily monitoring during clearing and grubbing over an assumed period of 10 working days, weekly monitoring during construction over an assumed period of 12 months, and 5 days of monitoring construction of planned project features (storm drains, block walls, utilities) (total of 67 monitoring visits). Dudek will prepare monthly monitoring reports in the form of a Consultant Site Visit Record (total of 12 reports).

Post Construction Biological Monitoring Activities (Condition IIIA)

Dudek will submit a final BCME report to the City within 30 days of construction completion. This will be a one-time cost that would build on the previous monthly reports.

The RABC-ECC JV Design-Build Team has applied their vast Design-Build experience using advanced planning to deliver the most efficiently managed and safest project possible for the City of San Diego. This Construction Plan is evidence of our commitment to bring our most talented personnel and subcontractors to deliver an outstanding Fire Station 50 in University City.

## 7.0 Equal Employment and Contracting Opportunity

RABC-ECC joint venture team members are small businesses who are both frontrunners in the small business arena—the team members continually achieve goals and establish a higher standard of excellence for the construction community. As general contractors, we endeavor to promote effective outreach programs and strive to provide assistance to the small and historically under-utilized business community to achieve our shared goals.

Our team’s policy and belief is to provide small, disadvantaged, minority, women and veteran owned businesses the maximum opportunity to participate on our projects as subcontractors, second and third tier subcontractors, vendors/suppliers, and trucking firms.

For example, for Fire Station 50, under the agreement with Platt/Whitelaw, SLBE certified firm, the following consultants are also SLBE or ELBE:

Structural Engineer: Stedman & Dyson Structural Engineers

Mechanical Engineer: MA Engineers

Landscape Designer: Marum Partnership

Our dedication to firms that make up the small business community is strong enough that we believe we can be a resource beyond reaching outreach goals. If a firm hasn’t realized the potential as a certified or self-certified business, we are here as a resource to help them achieve their business goals. A company’s dedication strengthens our core values, supports our culture, and betters the communities in which we live and work; because of that we are fully committed to our small business community.

### Identification of Products/Services to be Subcontracted

RABC-ECC has provided with its Price Proposal a listing of at least 3 of the largest Subcontractors (constructors only) for the Project and all other Subcontractors (design professionals, etc.) that are known at proposal time using form AA05 and AA25.

## **8.0: PRESENTATION AND INTERVIEW**

### **Presentation & Interview following the receipt of the Technical Proposal**

## 9.0: REFERENCE CHECKS

Name and phone numbers of three (3) completed Design-Build Projects including project type and value of completed construction

### COMPLETED BY R A BURCH CONSTRUCTION

**1. PROJECT:** N62473-10-C-5005 – Design-Build 41 Area Operational & Community Facilities  
**CONSTRUCTION COST:** \$136,046,028

**PROJECT TYPE:** 324,717 SF project included multiple operational training, administration and community facilities as well as a 5-story, 103,551 SF 200-room Bachelor Enlisted Quarters complete with ocean views. The campus included a Battalion Headquarters, Medical Aid Station, Armory, Fitness Center, Single Marine Center, mail distribution facility, Location Exchange, Fire Station, Classroom Instruction Building, Paraloft, Platoon Team Building, two Vehicle Maintenance Facilities, and two warehouses. Two parking structures, a new vehicle bridge, and two pedestrian bridges were also built to free-span across environmentally sensitive areas and U.S. Waters flowing, without disturbance of the habitat. Two facilities were renovated and 13 structures were demolished. The Design/Build of significant roadway, intersection and utility improvements strengthened the infrastructure for the entire 3-area complex

**PROJECT OWNER:** NAVFAC SW – ROICC CAMP PENDLETON

**NAME:** Sue Ellen Downs, CID -AC/S G-F Public Works Branch

**TELEPHONE:** 760.763.8144 **EMAIL:** [Sue.downs@usmc.mil](mailto:Sue.downs@usmc.mil)

**2. PROJECT:** Two-Phase Design/Build F-22 Relocation - **CONSTRUCTION COST:** \$25,989,225.31

**PROJECT TYPE:** The F-22 Relocation Project at Edwards AFB is a fast-track Design-Build reconstruction of six existing structures and one new structure totaling 177,000 SF, along with associated site work paving, parking lots and roadway. Four of the buildings will house the Command, Engineers, Administration and Technicians of the F-22 Test wing. Two of the structures are Hangars which will house aircraft, Computer Centers and Shop areas. The final structure is a newly constructed Pre-Engineered Maintenance Shop/ Warehouse.

**PROJECT OWNER:** USACE – LOS ANGELES DISTRICT

**NAME:** Chad Allen – Resident Engineer

**TELEPHONE:** 661.277.9927 **EMAIL:** [chad.d.allen@usace.army.mil](mailto:chad.d.allen@usace.army.mil)

### COMPLETED BY EC CONSTRUCTORS

**3. PROJECT:** Design-Build Tenant Improvement and Roof Replacement  
**CONSTRUCTION COST:** \$1,764,876.00

**PROJECT TYPE:** ECC worked in partnership with RJC Architects in the design-build of 20,000 SF tenant improvement and 30,000 SF roof replacement for Sharp Healthcare Computer Operations and Information Complex. Interior renovation included demolition and replacement of existing walls, ceilings, floor finish, and mechanical / electrical systems. Interior space was opened up, allowing workstations natural daylight and views to the exterior. Interior upgrades include new conference spaces, new HVAC ductwork and units, modified fire sprinkler system, modified electrical distribution system to support modular furniture and upgraded LED lighting system, new acoustical ceiling system, repair & replacement of drywall partitions, new painting, and new flooring throughout.

Exterior renovation focused on complete roof replacement, the addition of exterior patio accessed via the break room, landscape and hardscape improvements and exterior storefront replacement with new dual-glazed energy efficient system with Low-E glazing. Efficient mechanical units replaced outdated systems, and together with increased insulation at the roof, improved glazing, and upgraded lighting systems, the user is able to save on mechanical and electrical costs. Project included providing pathways and coordination with vendor for owner furnished Data/Comm. and Fire Alarm systems. Work under ECC contract included coordination with furniture supplier for receiving and installing owner furnished modular furniture systems throughout the facility. Project also included set-up of temporary space in adjacent facility for 42 existing employees and had to be completed while maintaining continual operation of existing data center and all supporting services.

**PROJECT OWNER:** Sharp Healthcare

**NAME:** Kate Herring

**TELEPHONE:** 619.750.8251

**EMAIL:** [kate.hlpdesign@gmail.com](mailto:kate.hlpdesign@gmail.com)

### **JV DESIGN BUILD PROJECT**

**4. PROJECT:** Design-Build Chollas Water Operations Facility

**CONSTRUCTION COST:** \$25,595,997.00

**PROJECT TYPE:** The Joint Venture is working in partnership with RJC Architects for the design & construction of approximately 40,000 SF two-story Administration Building and approximately 20,000 SF Shop Building to support PUD water operations at the Chollas complex. The project design is currently at DSD for plan review and permitting. The JV has completed set-up of Modular Office Complex to be utilized as temporary facilities for City personnel while demolition of existing structures occurs. There have been a few surprises on this project but the JV Team and City Staff have been able to successfully resolve all issues to keep the design and construction moving forward. Although this project is not complete, please consider asking this team for referral.

**PROJECT OWNER:** City of San Diego

**NAME:** Nikki Lewis

**TELEPHONE:** 619.533.6653

**EMAIL:** [nlewis@sanidiego.gov](mailto:nlewis@sanidiego.gov)



City of San Diego

**EQUAL OPPORTUNITY CONTRACTING (EOC)**

1200 Third Avenue • Suite 200 • San Diego, CA 92101

Phone: (619) 236-6000 • Fax: (619) 236-5904

**WORK FORCE REPORT**

The objective of the *Equal Employment Opportunity Outreach Program*, San Diego Municipal Code Sections 22.3501 through 22.3517, is to ensure that contractors doing business with the City, or receiving funds from the City, do not engage in unlawful discriminatory employment practices prohibited by State and Federal law. Such employment practices include, but are not limited to unlawful discrimination in the following: employment, promotion or upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other forms of compensation, and selection for training, including apprenticeship. Contractors are required to provide a completed *Work Force Report (WFR)*.

**NO OTHER FORMS WILL BE ACCEPTED  
CONTRACTOR IDENTIFICATION**

Type of Contractor:  Construction  Vendor/Supplier  Financial Institution  Lessee/Lessor  
 Consultant  Grant Recipient  Insurance Company  Other

Name of Company: EC Constructors, Inc.

ADA/DBA: \_\_\_\_\_

Address (Corporate Headquarters, where applicable): 9834 River Street

City: Lakeside County: San Diego State: CA Zip: 92040

Telephone Number: ( ) (619) 440-7181 Fax Number: ( ) (619) 440-7180

Name of Company CEO: Sherri L. Summers

Address(es), phone and fax number(s) of company facilities located in San Diego County (if different from above):

Address: same as above

City: \_\_\_\_\_ County: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone Number: ( ) \_\_\_\_\_ Fax Number: ( ) \_\_\_\_\_ Email: \_\_\_\_\_

Type of Business: General Contractor Type of License: 585677 A, B, C-8

The Company has appointed: Sherri L. Summers, CEO

As its Equal Employment Opportunity Officer (EEOO). The EEOO has been given authority to establish, disseminate and enforce equal employment and affirmative action policies of this company. The EEOO may be contacted at:

Address: same as above

Telephone Number: 619.440.7181 Fax Number: 619.440.7180 Email: sherri@econconstructors.com

- One San Diego County (or Most Local County) Work Force - Mandatory
- Branch Work Force \*
- Managing Office Work Force

*Check the box above that applies to this WFR.*

*\*Submit a separate Work Force Report for all participating branches. Combine WFRs if more than one branch per county.*

I, the undersigned representative of EC Constructors, Inc.

(Firm Name)

San Diego, CA hereby certify that information provided

(County)

(State)

herein is true and correct. This document was executed on this 8th day of November, 2017

[Signature]  
(Authorized Signature)

Sherri L. Summers  
(Print Authorized Signature Name)

**WORK FORCE REPORT – Page 2**

NAME OF FIRM: EC Constructors, Inc.

DATE: 11/8/17

OFFICE(S) or BRANCH(ES): 9834 River Street, Lakeside, CA 92040

COUNTY: San Diego

INSTRUCTIONS: For each occupational category, indicate number of males and females in every ethnic group. Total columns in row provided. Sum of all totals should be equal to your total work force. Include all those employed by your company on either a full or part-time basis. The following groups are to be included in ethnic categories listed in columns below:

- (1) Black, African-American
- (2) Hispanic, Latino, Mexican-American, Puerto Rican
- (3) Asian
- (4) American Indian, Eskimo
- (5) Filipino, Asian Pacific Islander
- (6) White, Caucasian
- (7) Other ethnicity; not falling into other groups

ADMINISTRATION OCCUPATIONAL CATEGORY	(1) African American		(2) Hispanic or Latino		(3) Asian		(4) American Indian		(5) Asian Pacific Islander		(6) Caucasian		(7) Other Ethnicity	
	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)
	Management & Financial											7	1	1
Professional														
A&E, Science, Computer														
Technical														
Sales														
Administrative Support				1							3	3		
Services														
Crafts														
Operative Workers														
Transportation														
Laborers*														

\*Construction laborers and other field employees are not to be included on this page

Totals Each Column			1								10	4	1	
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Grand Total All Employees

16

Indicate by Gender and Ethnicity the Number of Above Employees Who Are Disabled:

Disabled														
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Non-Profit Organizations Only:

Board of Directors														
Volunteers														
Artists														

**WORK FORCE REPORT – Page 3**

NAME OF FIRM: EC Constructors, Inc.

DATE: 11/8/17

OFFICE(S) or BRANCH(ES): 9834 River Street, Lakeside CA 92040

COUNTY: San Diego

INSTRUCTIONS: For each occupational category, indicate number of males and females in every ethnic group. Total columns in row provided. Sum of all totals should be equal to your total work force. Include all those employed by your company on either a full or part-time basis. The following groups are to be included in ethnic categories listed in columns below:

- (1) Black, African-American
- (2) Hispanic, Latino, Mexican-American, Puerto Rican
- (3) Asian
- (4) American Indian, Eskimo
- (5) Filipino, Asian Pacific Islander
- (6) White, Caucasian
- (7) Other ethnicity; not falling into other groups

TRADE OCCUPATIONAL CATEGORY	(1) African American		(2) Hispanic or Latino		(3) Asian		(4) American Indian		(5) Asian Pacific Islander		(6) Caucasian		(7) Other Ethnicity	
	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)
Brick, Block or Stone Masons														
Carpenters			14								8			
Carpet, Floor & Tile Installers Finishers														
Cement Masons, Concrete Finishers			12											
Construction Laborers			9								1			
Drywall Installers, Ceiling Tile Inst														
Electricians														
Elevator Installers														
First-Line Supervisors/Managers			2								7		1	
Glaziers														
Helpers; Construction Trade														
Millwrights														
Misc. Const. Equipment Operators														
Painters, Const. & Maintenance														
Pipelayers, Plumbers, Pipe & Steam Fitters														
Plasterers & Stucco Masons														
Roofers														
Security Guards & Surveillance Officers														
Sheet Metal Workers														
Structural Metal Fabricators & Fitters														
Welding, Soldering & Brazing Workers														
Workers, Extractive Crafts, Miners														

Totals Each Column			37								16		1	
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Grand Total All Employees 53

Indicate By Gender and Ethnicity the Number of Above Employees Who Are Disabled:

Disabled														
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# CITY OF SAN DIEGO WORK FORCE REPORT

## HISTORY

The Work Force Report (WFR) is the document that allows the City of San Diego to analyze the work forces of all firms wishing to do business with the City. We are able to compare the firm's work force data to County Labor Force Availability (CLFA) data derived from the United States Census. CLFA data is a compilation of lists of occupations and includes the percentage of each ethnicity we track (African-American, Hispanic or Latino, Asian, American Indian, Asian Pacific Islander, Caucasian, and Other Ethnicities) for each occupation. Currently, our CLFA data is taken from the 2010 Census. In order to compare one firm to another, it is important that the data we receive from the consultant firm is accurate and organized in the manner that allows for this fair comparison.

## WORK FORCE & BRANCH WORK FORCE REPORTS

When submitting a WFR, especially if the WFR is for a specific project or activity, we would like to have information about the firm's work force that is actually participating in the project or activity. That is, if the project is in San Diego and the work force is from San Diego, we want a San Diego County Work Force Report.<sup>1</sup> By the same token, if the project is in San Diego, but the work force is from another county, such as Orange or Riverside County, we want a Work Force Report from that county.<sup>2</sup> If participation in a San Diego project is by work forces from San Diego County and, for example, from Los Angeles County and from

Sacramento County, we ask for separate Work Force Reports representing your firm from each of the three counties.

## MANAGING OFFICE WORK FORCE

Equal Opportunity Contracting may occasionally ask for a Managing Office Work Force (MOWF) Report. This may occur in an instance where the firm involved is a large national or international firm but the San Diego or other local work force is very small. In this case, we may ask for both a local and a MOWF Report.<sup>1,3</sup> In another case, when work is done only by the Managing Office, only the MOWF Report may be necessary.<sup>3</sup>

## TYPES OF WORK FORCE REPORTS:

Please note, throughout the preceding text of this page, the superscript numbers one <sup>1</sup>, two <sup>2</sup> & three <sup>3</sup>. These numbers coincide with the types of work force report required in the example. See below:

- <sup>1</sup> One San Diego County (or Most Local County) Work Force – Mandatory in most cases
- <sup>2</sup> Branch Work Force \*
- <sup>3</sup> Managing Office Work Force

*\*Submit a separate Work Force Report for all participating branches. Combine WFRs if more than one branch per county.*

## **Exhibit A: Work Force Report Job categories-Administration**

Refer to this table when completing your firm's Work Force Report form(s).

### **Management & Financial**

Advertising, Marketing, Promotions, Public Relations, and Sales Managers
Business Operations Specialists
Financial Specialists
Operations Specialties Managers
Other Management Occupations
Top Executives

### **Professional**

Art and Design Workers
------------------------

Counselors, Social Workers, and Other Community and Social Service Specialists
Entertainers and Performers, Sports and Related Workers
Health Diagnosing and Treating Practitioners
Lawyers, Judges, and Related Workers
Librarians, Curators, and Archivists
Life Scientists
Media and Communication Workers
Other Teachers and Instructors
Postsecondary Teachers
Primary, Secondary, and Special Education School Teachers

Religious Workers
Social Scientists and Related Workers

**Architecture & Engineering, Science, Computer**

Architects, Surveyors, and Cartographers
Computer Specialists
Engineers
Mathematical Science Occupations
Physical Scientists

**Technical**

Drafters, Engineering, and Mapping Technicians
Health Technologists and Technicians
Life, Physical, and Social Science Technicians
Media and Communication Equipment Workers

**Sales**

Other Sales and Related Workers
Retail Sales Workers
Sales Representatives, Services
Sales Representatives, Wholesale and Manufacturing
Supervisors, Sales Workers

**Administrative Support**

Financial Clerks
Information and Record Clerks
Legal Support Workers
Material Recording, Scheduling, Dispatching, and Distributing Workers
Other Education, Training, and Library Occupations
Other Office and Administrative Support Workers
Secretaries and Administrative Assistants
Supervisors, Office and Administrative Support Workers

**Services**

Building Cleaning and Pest Control Workers
Cooks and Food Preparation Workers
Entertainment Attendants and Related Workers
Fire Fighting and Prevention Workers
First-Line Supervisors/Managers, Protective Service Workers
Food and Beverage Serving Workers
Funeral Service Workers
Law Enforcement Workers
Nursing, Psychiatric, and Home Health Aides
Occupational and Physical Therapist Assistants and Aides
Other Food Preparation and Serving Related Workers
Other Healthcare Support Occupations
Other Personal Care and Service Workers
Other Protective Service Workers
Personal Appearance Workers
Supervisors, Food Preparation and Serving Workers
Supervisors, Personal Care and Service Workers
Transportation, Tourism, and Lodging Attendants

**Crafts**

Construction Trades Workers
Electrical and Electronic Equipment Mechanics, Installers, and Repairers
Extraction Workers
Material Moving Workers
Other Construction and Related Workers
Other Installation, Maintenance, and Repair Occupations
Plant and System Operators
Supervisors of Installation, Maintenance, and Repair Workers
Supervisors, Construction and Extraction Workers
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
Woodworkers

**Operative Workers**

Assemblers and Fabricators
Communications Equipment Operators
Food Processing Workers
Metal Workers and Plastic Workers
Motor Vehicle Operators
Other Production Occupations
Printing Workers
Supervisors, Production Workers
Textile, Apparel, and Furnishings Workers

**Transportation**

Air Transportation Workers
Other Transportation Workers
Rail Transportation Workers
Supervisors, Transportation and Material Moving Workers
Water Transportation Workers

**Laborers**

Agricultural Workers
Animal Care and Service Workers
Fishing and Hunting Workers
Forest, Conservation, and Logging Workers
Grounds Maintenance Workers
Helpers, Construction Trades
Supervisors, Building and Grounds Cleaning and Maintenance Workers
Supervisors, Farming, Fishing, and Forestry Workers

## Exhibit B: Work Force Report Job categories-Trade

### Brick, Block or Stone Masons

Brickmasons and Blockmasons
Stonemasons

### Carpenters

#### Carpet, floor and Tile Installers and Finishers

Carpet Installers
Floor Layers, except Carpet, Wood and Hard Tiles
Floor Sanders and Finishers
Tile and Marble Setters

### Cement Masons, Concrete Finishers

Cement Masons and Concrete Finishers
Terrazzo Workers and Finishers

### Construction Laborers

#### Drywall Installers, Ceiling Tile Inst

Drywall and Ceiling Tile Installers
Tapers

### Electricians

### Elevator Installers and Repairers

### First-Line Supervisors/Managers

First-line Supervisors/Managers of Construction Trades and Extraction Workers
---

### Glaziers

### Helpers, Construction Trade

Brickmasons, Blockmasons, and Tile and Marble Setters
Carpenters
Electricians
Painters, Paperhangers, Plasterers and Stucco
Pipelayers, Plumbers, Pipefitters and Steamfitters
Roofers
All other Construction Trades

### Millwrights

Heating, Air Conditioning and Refrigeration Mechanics and Installers
Mechanical Door Repairers
Control and Valve Installers and Repairers
Other Installation, Maintenance and Repair Occupations

### Misc. Const. Equipment Operators

Paving, Surfacing and Tamping Equipment Operators
Pile-Driver Operators
Operating Engineers and Other Construction Equipment Operators

### Painters, Const. Maintenance

Painters, Construction and Maintenance
Paperhangers

### Pipelayers and Plumbers

Pipelayers
Plumbers, Pipefitters and Steamfitters

### Plasterers and Stucco Masons

### Roofers

### Security Guards & Surveillance Officers

### Sheet Metal Workers

### Structural Iron and Steel Workers

### Welding, Soldering and Brazing Workers

Welders, Cutter, Solderers and Brazers
Welding, Soldering and Brazing Machine Setter, Operators and Tenders

### Workers, Extractive Crafts, Miners



City of San Diego

**EQUAL OPPORTUNITY CONTRACTING (EOC)**

1200 Third Avenue • Suite 200 • San Diego, CA 92101

Phone: (619) 236-6000 • Fax: (619) 236-5904

**WORK FORCE REPORT**

The objective of the *Equal Employment Opportunity Outreach Program*, San Diego Municipal Code Sections 22.3501 through 22.3517, is to ensure that contractors doing business with the City, or receiving funds from the City, do not engage in unlawful discriminatory employment practices prohibited by State and Federal law. Such employment practices include, but are not limited to unlawful discrimination in the following: employment, promotion or upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other forms of compensation, and selection for training, including apprenticeship. Contractors are required to provide a completed *Work Force Report (WFR)*.

**NO OTHER FORMS WILL BE ACCEPTED  
CONTRACTOR IDENTIFICATION**

Type of Contractor:  Construction  Vendor/Supplier  Financial Institution  Lessee/Lessor  
 Consultant  Grant Recipient  Insurance Company  Other

Name of Company: R. A. Burch Construction Co., Inc.

ADA/DBA: N/A

Address (Corporate Headquarters, where applicable): 405 Maple Street, Suite B101

City: Ramona County: San Diego State: California Zip: 92065

Telephone Number: (760) 788.0800 Fax Number: (760) 789.3549

Name of Company CEO: Robert A. Burch

Address(es), phone and fax number(s) of company facilities located in San Diego County (if different from above):

Address: Same as above

City: \_\_\_\_\_ County: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone Number: ( ) \_\_\_\_\_ Fax Number: ( ) \_\_\_\_\_ Email: \_\_\_\_\_

Type of Business: General Contractor Type of License: A, B, Asbestos

The Company has appointed: Karen Dechape

As its Equal Employment Opportunity Officer (EEOO). The EEOO has been given authority to establish, disseminate and enforce equal employment and affirmative action policies of this company. The EEOO may be contacted at:

Address: 405 Maple Street, Suite B101, Ramona, CA 92065

Telephone Number: (760) 788.0800 Fax Number: (760) 789.3549 Email: karen@raburch.com

- One San Diego County (or Most Local County) Work Force - Mandatory
- Branch Work Force \*
- Managing Office Work Force

Check the box above that applies to this WFR.

\*Submit a separate Work Force Report for all participating branches. Combine WFRs if more than one branch per county.

I, the undersigned representative of R. A. Burch Construction Co., Inc.

(Firm Name)

San Diego, California hereby certify that information provided

(County)

(State)

herein is true and correct. This document was executed on this 28th day of November, 2017

(Authorized Signature)

R. A. Burch - President

(Print Authorized Signature Name)

**WORK FORCE REPORT – Page 2**

NAME OF FIRM: \_\_\_\_\_ DATE: \_\_\_\_\_

OFFICE(S) or BRANCH(ES): \_\_\_\_\_ COUNTY: \_\_\_\_\_

INSTRUCTIONS: For each occupational category, indicate number of males and females in every ethnic group. Total columns in row provided. Sum of all totals should be equal to your total work force. Include all those employed by your company on either a full or part-time basis. The following groups are to be included in ethnic categories listed in columns below:

- (1) Black, African-American
- (2) Hispanic, Latino, Mexican-American, Puerto Rican
- (3) Asian
- (4) American Indian, Eskimo
- (5) Filipino, Asian Pacific Islander
- (6) White, Caucasian
- (7) Other ethnicity; not falling into other groups

ADMINISTRATION OCCUPATIONAL CATEGORY	(1) African American		(2) Hispanic or Latino		(3) Asian		(4) American Indian		(5) Asian Pacific Islander		(6) Caucasian		(7) Other Ethnicity	
	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)
Management & Financial														
Professional														
A&E, Science, Computer														
Technical														
Sales														
Administrative Support														
Services														
Crafts														
Operative Workers														
Transportation														
Laborers*														

\*Construction laborers and other field employees are not to be included on this page

Totals Each Column														
--------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Grand Total All Employees

Indicate by Gender and Ethnicity the Number of Above Employees Who Are Disabled:

Disabled														
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Non-Profit Organizations Only:

Board of Directors														
Volunteers														
Artists														

**WORK FORCE REPORT – Page 3**

NAME OF FIRM: \_\_\_\_\_ DATE: \_\_\_\_\_

OFFICE(S) or BRANCH(ES): \_\_\_\_\_ COUNTY: \_\_\_\_\_

INSTRUCTIONS: For each occupational category, indicate number of males and females in every ethnic group. Total columns in row provided. Sum of all totals should be equal to your total work force. Include all those employed by your company on either a full or part-time basis. The following groups are to be included in ethnic categories listed in columns below:

- (1) Black, African-American
- (2) Hispanic, Latino, Mexican-American, Puerto Rican
- (3) Asian
- (4) American Indian, Eskimo
- (5) Filipino, Asian Pacific Islander
- (6) White, Caucasian
- (7) Other ethnicity; not falling into other groups

TRADE OCCUPATIONAL CATEGORY	(1) African American		(2) Hispanic or Latino		(3) Asian		(4) American Indian		(5) Asian Pacific Islander		(6) Caucasian		(7) Other Ethnicity	
	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)	(M)	(F)
	Brick, Block or Stone Masons													
Carpenters														
Carpet, Floor & Tile Installers Finishers														
Cement Masons, Concrete Finishers														
Construction Laborers														
Drywall Installers, Ceiling Tile Inst														
Electricians														
Elevator Installers														
First-Line Supervisors/Managers														
Glaziers														
Helpers; Construction Trade														
Millwrights														
Misc. Const. Equipment Operators														
Painters, Const. & Maintenance														
Pipelayers, Plumbers, Pipe & Steam Fitters														
Plasterers & Stucco Masons														
Roofers														
Security Guards & Surveillance Officers														
Sheet Metal Workers														
Structural Metal Fabricators & Fitters														
Welding, Soldering & Brazing Workers														
Workers, Extractive Crafts, Miners														

Totals Each Column														
--------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Grand Total All Employees	<input style="width: 100px; height: 20px;" type="text"/>													
---------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Indicate By Gender and Ethnicity the Number of Above Employees Who Are Disabled:

Disabled														
----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--



# CITY OF SAN DIEGO WORK FORCE REPORT

## HISTORY

The Work Force Report (WFR) is the document that allows the City of San Diego to analyze the work forces of all firms wishing to do business with the City. We are able to compare the firm's work force data to County Labor Force Availability (CLFA) data derived from the United States Census. CLFA data is a compilation of lists of occupations and includes the percentage of each ethnicity we track (African-American, Hispanic or Latino, Asian, American Indian, Asian Pacific Islander, Caucasian, and Other Ethnicities) for each occupation. Currently, our CLFA data is taken from the 2010 Census. In order to compare one firm to another, it is important that the data we receive from the consultant firm is accurate and organized in the manner that allows for this fair comparison.

## WORK FORCE & BRANCH WORK FORCE REPORTS

When submitting a WFR, especially if the WFR is for a specific project or activity, we would like to have information about the firm's work force that is actually participating in the project or activity. That is, if the project is in San Diego and the work force is from San Diego, we want a San Diego County Work Force Report.<sup>1</sup> By the same token, if the project is in San Diego, but the work force is from another county, such as Orange or Riverside County, we want a Work Force Report from that county.<sup>2</sup> If participation in a San Diego project is by work forces from San Diego County and, for example, from Los Angeles County and from

Sacramento County, we ask for separate Work Force Reports representing your firm from each of the three counties.

## MANAGING OFFICE WORK FORCE

Equal Opportunity Contracting may occasionally ask for a Managing Office Work Force (MOWF) Report. This may occur in an instance where the firm involved is a large national or international firm but the San Diego or other local work force is very small. In this case, we may ask for both a local and a MOWF Report.<sup>1,3</sup> In another case, when work is done only by the Managing Office, only the MOWF Report may be necessary.<sup>3</sup>

## TYPES OF WORK FORCE REPORTS:

Please note, throughout the preceding text of this page, the superscript numbers one <sup>1</sup>, two <sup>2</sup> & three <sup>3</sup>. These numbers coincide with the types of work force report required in the example. See below:

- <sup>1</sup> One San Diego County (or Most Local County) Work Force – Mandatory in most cases
- <sup>2</sup> Branch Work Force \*
- <sup>3</sup> Managing Office Work Force

*\*Submit a separate Work Force Report for all participating branches. Combine WFRs if more than one branch per county.*

## **Exhibit A: Work Force Report Job categories-Administration**

Refer to this table when completing your firm's Work Force Report form(s).

### **Management & Financial**

Advertising, Marketing, Promotions, Public Relations, and Sales Managers
Business Operations Specialists
Financial Specialists
Operations Specialties Managers
Other Management Occupations
Top Executives

### **Professional**

Art and Design Workers
------------------------

Counselors, Social Workers, and Other Community and Social Service Specialists
Entertainers and Performers, Sports and Related Workers
Health Diagnosing and Treating Practitioners
Lawyers, Judges, and Related Workers
Librarians, Curators, and Archivists
Life Scientists
Media and Communication Workers
Other Teachers and Instructors
Postsecondary Teachers
Primary, Secondary, and Special Education School Teachers

Religious Workers
Social Scientists and Related Workers

**Architecture & Engineering, Science, Computer**

Architects, Surveyors, and Cartographers
Computer Specialists
Engineers
Mathematical Science Occupations
Physical Scientists

**Technical**

Drafters, Engineering, and Mapping Technicians
Health Technologists and Technicians
Life, Physical, and Social Science Technicians
Media and Communication Equipment Workers

**Sales**

Other Sales and Related Workers
Retail Sales Workers
Sales Representatives, Services
Sales Representatives, Wholesale and Manufacturing
Supervisors, Sales Workers

**Administrative Support**

Financial Clerks
Information and Record Clerks
Legal Support Workers
Material Recording, Scheduling, Dispatching, and Distributing Workers
Other Education, Training, and Library Occupations
Other Office and Administrative Support Workers
Secretaries and Administrative Assistants
Supervisors, Office and Administrative Support Workers

**Services**

Building Cleaning and Pest Control Workers
Cooks and Food Preparation Workers
Entertainment Attendants and Related Workers
Fire Fighting and Prevention Workers
First-Line Supervisors/Managers, Protective Service Workers
Food and Beverage Serving Workers
Funeral Service Workers
Law Enforcement Workers
Nursing, Psychiatric, and Home Health Aides
Occupational and Physical Therapist Assistants and Aides
Other Food Preparation and Serving Related Workers
Other Healthcare Support Occupations
Other Personal Care and Service Workers
Other Protective Service Workers
Personal Appearance Workers
Supervisors, Food Preparation and Serving Workers
Supervisors, Personal Care and Service Workers
Transportation, Tourism, and Lodging Attendants

**Crafts**

Construction Trades Workers
Electrical and Electronic Equipment Mechanics, Installers, and Repairers
Extraction Workers
Material Moving Workers
Other Construction and Related Workers
Other Installation, Maintenance, and Repair Occupations
Plant and System Operators
Supervisors of Installation, Maintenance, and Repair Workers
Supervisors, Construction and Extraction Workers
Vehicle and Mobile Equipment Mechanics, Installers, and Repairers
Woodworkers

**Operative Workers**

Assemblers and Fabricators
Communications Equipment Operators
Food Processing Workers
Metal Workers and Plastic Workers
Motor Vehicle Operators
Other Production Occupations
Printing Workers
Supervisors, Production Workers
Textile, Apparel, and Furnishings Workers

**Transportation**

Air Transportation Workers
Other Transportation Workers
Rail Transportation Workers
Supervisors, Transportation and Material Moving Workers
Water Transportation Workers

**Laborers**

Agricultural Workers
Animal Care and Service Workers
Fishing and Hunting Workers
Forest, Conservation, and Logging Workers
Grounds Maintenance Workers
Helpers, Construction Trades
Supervisors, Building and Grounds Cleaning and Maintenance Workers
Supervisors, Farming, Fishing, and Forestry Workers

## Exhibit B: Work Force Report Job categories-Trade

### Brick, Block or Stone Masons

Brickmasons and Blockmasons
Stonemasons

### Carpenters

#### Carpet, floor and Tile Installers and Finishers

Carpet Installers
Floor Layers, except Carpet, Wood and Hard Tiles
Floor Sanders and Finishers
Tile and Marble Setters

### Cement Masons, Concrete Finishers

Cement Masons and Concrete Finishers
Terrazzo Workers and Finishers

### Construction Laborers

#### Drywall Installers, Ceiling Tile Inst

Drywall and Ceiling Tile Installers
Tapers

### Electricians

### Elevator Installers and Repairers

### First-Line Supervisors/Managers

First-line Supervisors/Managers of Construction Trades and Extraction Workers
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### Glaziers

### Helpers, Construction Trade

Brickmasons, Blockmasons, and Tile and Marble Setters
Carpenters
Electricians
Painters, Paperhangers, Plasterers and Stucco
Pipelayers, Plumbers, Pipefitters and Steamfitters
Roofers
All other Construction Trades

### Millwrights

Heating, Air Conditioning and Refrigeration Mechanics and Installers
Mechanical Door Repairers
Control and Valve Installers and Repairers
Other Installation, Maintenance and Repair Occupations

### Misc. Const. Equipment Operators

Paving, Surfacing and Tamping Equipment Operators
Pile-Driver Operators
Operating Engineers and Other Construction Equipment Operators

### Painters, Const. Maintenance

Painters, Construction and Maintenance
Paperhangers

### Pipelayers and Plumbers

Pipelayers
Plumbers, Pipefitters and Steamfitters

### Plasterers and Stucco Masons

### Roofers

### Security Guards & Surveillance Officers

### Sheet Metal Workers

### Structural Iron and Steel Workers

### Welding, Soldering and Brazing Workers

Welders, Cutter, Solderers and Brazers
Welding, Soldering and Brazing Machine Setter, Operators and Tenders

### Workers, Extractive Crafts, Miners