

City of San Diego

CONTRACTOR'S NAME: _____
ADDRESS: _____
TELEPHONE NO.: _____ FAX NO.: _____
CITY CONTACT: Damian Singleton, Contract Specialist, Email: dsingleton@sandiego.gov
Phone No. (619) 533-3482 - Fax No. (619) 533-3633
YHanna / RTaleghani / Is

CONTRACT DOCUMENTS



FOR

CASA DE BALBOA AND MUSEUM OF MAN ADA BARRIER REMOVAL

VOLUME 1 OF 2

BID NO.: _____ K-14-1199-DBB-3
SAP NO. (WBS/IO/CC): _____ B-13018, B-13021
CLIENT DEPARTMENT: _____ 1714
COUNCIL DISTRICT: _____ 3
PROJECT TYPE: _____ BT

THIS CONTRACT IS SUBJECT TO THE FOLLOWING:

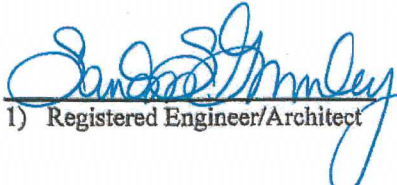
- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.
- BID DISCOUNT PROGRAM (The WHITEBOOK, SLBE-ELBE Program Requirements, Section IV(2))
- PREVAILING WAGE RATES: STATE FEDERAL

BID DUE DATE:

**2:00 PM
APRIL 30, 2014
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTING GROUP
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101**

ENGINEER OF WORK


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


1) Registered Engineer/Architect

3.20.14
Date

Seal:




2) For City Engineer

3/21/14

Seal:



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CITY OF SAN DIEGO, CALIFORNIA

NOTICE INVITING BIDS

1. **RECEIPT AND OPENING OF BIDS:** Bids will be received at the Public Works Contracting Group at the location, time, and date shown on the cover of these specifications for performing work on **Casa de Balboa and Museum of Man ADA Barrier Removal** (Project).
2. **SUMMARY OF WORK:** The Work involves furnishing all labor, materials, equipment, services, and other incidental works and appurtenances for the construction of the Project as described in ATTACHMENT A.
3. **BIDS ARE PUBLIC RECORDS:** Upon receipt by the City, Bids 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 Bid. 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.
4. **SUBCONTRACTING PARTICIPATION PERCENTAGES:**
 - 4.1. 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	2.9%
2. ELBE participation	8.1%
3. Total mandatory participation	11.0%
 - 4.2. The Bidders are **required** to attend the Pre-Bid Meeting to better understand the Good Faith Effort requirements of this contract. See the City's document titled "SLBE Program, Instructions For Bidders Completing The Good Faith Effort Submittal" available at: <http://www.sandiego.gov/eoc/>
 - 4.3. The Bid will be declared non-responsive if the Bidder fails the following mandatory conditions:
 - 4.3.1. Attending the Pre-Bid Meeting.
 - 4.3.2. Bidder's inclusion of SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; OR.

4.3.3. Bidder's submission of Good Faith Effort documentation demonstrating the Bidder made a good faith effort to outreach to and include SLBE-ELBE Subcontractors required in this document within **3 Working Days** of the Bid opening if the overall mandatory participation percentage is not met.

4.4. For additional Equal Opportunity Contracting Program requirements, see Attachment C.

5. PRE-BID MEETING:

5.1. There will be a Pre-Bid Meeting to discuss the scope of the Project, bidding requirements, pre-qualification process, and Equal Opportunity Contracting Program requirements and reporting procedures in the Public Works Contracting Group, Conference Room at 1010 Second Avenue, 14th Floor, San Diego, CA 92101 at **10:00 A.M., on April 9th, 2014.**

5.2. **The Pre-Bid Meeting has been designated as MANDATORY. All potential bidders are required to attend.** Bid will be declared **non-responsive** if the Bidder fails to attend the Pre-Bid Meeting when specified to be mandatory. Attendance at the Pre-Bid Meeting will be evidenced by the representative's signature on the attendance roster. It shall be the responsibility of the Bidder's representative to complete and sign the attendance roster. **No Bidder will be admitted after the specified start time of the mandatory Pre-Bid Meeting.**

5.3. To request a copy of the agenda on an alternative format, or to request a sign language or oral interpreter for this meeting, call the Public Works Contracting Group at (619) 533-3450 at least 5 Working Days prior to the Pre-Bid Meeting to ensure availability.

6. CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:

6.1. **Prior** to the Award of the Contract or each Task Order, you and your Subcontractors and Suppliers must register with the City's web-based contract compliance website, Prism®, located here:

<https://pro.prismcompliance.com/default.aspx>.

6.2. 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.

7. **PRE-BID SITE VISIT:** The Pre-Bid Visit has been designated as MANDATORY. The prospective Bidders are required to visit the Work Site with the Engineer. The purpose of the Site visit is to acquaint Bidders with the Site conditions. To request a sign language or oral interpreter for this visit, call the Public Works Contracting Group at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. A Pre-Bid Site Visit is offered when the details are provided as follows:

Time: **11:30 a.m. immediately following the Mandatory Pre-Bid Meeting**
Date: **April 9th, 2014.**
Location: **1649 El Prado, San Diego, CA 92101, 1350 El Prado
San Diego, CA 92101**

8. **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 2-1.1.2, "Joint Venture Contractors" in The WHITEBOOK for details.

9. **PREVAILING WAGE RATES:** Prevailing wage rates apply to this contract.

9.1. STATE REQUIREMENTS FOR CONTRACTS SUBJECT TO STATE PREVAILING WAGE REQUIREMENTS.

9.1.1. In accordance with the provisions of California Labor Code Sections 1770, et seq. as amended, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with the standards set forth in such Sections for the locality in which the Work is to be performed. Copies of the prevailing rate of per diem wages may be found at http://www.dir.ca.gov/dlsr/statistics_research.html . The Contractor shall post a copy of the above determination of the prevailing rate of per diem wages at each job site and shall make them available to any interested party on request.

9.1.2. Pursuant to Sections 1720 et seq., and 1770 et seq., of the California Labor Code the Contractor any Subcontractor shall pay not less than said specified rates determined by the Director of the California Department of Industrial Relations to all workmen employed by them in the execution of the Work.

9.1.3. The wage rates determined by the Director of Industrial Relations and published in the Department of Transportation publication entitled, "General Prevailing Wage Rates", refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, said 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 Department of Industrial Relations, 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.

- 9.1.4. The successful bidder intending to use a craft or classification not shown on the prevailing rate determinations may be required to pay the rate of the craft or classification most closely related to it.

10. INSURANCE REQUIREMENTS:

- 10.1. All certificates of insurance and endorsements required by the contract are to be provided upon issuance of the City’s Notice of Intent to Award letter.
- 10.2. Refer to sections 7-3, “LIABILITY INSURANCE”, and 7-4, “WORKERS’ COMPENSATION INSURANCE” of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.

11. PREQUALIFICATION OF CONTRACTORS:

- 11.1. Contractors submitting Bid must be pre-qualified for the total amount proposed, inclusive of all alternate items prior to the date of submittal. Bids from contractors who have not been pre-qualified as applicable and Bids that exceed the maximum dollar amount at which contractors are pre-qualified will be deemed **non-responsive** and ineligible for award. Complete information and prequalification questionnaires are available at:

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

- 11.2. The completed questionnaire, financial statement, and bond letter or a copy of the contractor’s SLBE-ELBE certification and bond letter, must be submitted no later than 2 weeks prior to the bid opening to the Public Works Contracting Group, Prequalification Program, 1010 Second Avenue, 14th Floor, San Diego, CA 92101. For additional information or the answer to questions about the prequalification program, contact David Stucky at 619-533-3474 or dstucky@sasndiego.gov.

12. REFERENCE STANDARDS: Except as otherwise noted or specified, the Work shall be completed in accordance with the following standards:

Title	Edition	Document Number
Standard Specifications for Public Works Construction (“The GREENBOOK”)	2012	PITS070112-01
City of San Diego Standard Specifications for Public Works Construction (“The WHITEBOOK”)*	2012	PITS070112-02
City of San Diego Standard Drawings*	2012	PITS070112-03
Caltrans Standard Specifications	2010	PITS070112-04
Caltrans Standard Plans	2010	PITS070112-05

Title	Edition	Document Number
California MUTCD	2012	PITS070112-06
City Standard Drawings - Updates Approved For Use (when specified)*	Varies	Varies
Standard Federal Equal Employment Opportunity Construction Contract Specifications and the Equal Opportunity Clause Dated 09-11-84	1984	769023
California Building Code	2010	
California Code of Regulations Title 24	2010	
ADA Standards for Accessibility Design and Department of Justice 28 CFR Part 35 and 36	2010	
NOTE: *Available online under Engineering Documents and References at: http://www.sandiego.gov/publicworks/edocref/index.shtml		

- 13. CITY'S RESPONSES AND ADDENDA:** The City at its option, may respond to any or all questions submitted in writing, via letter, or FAX in the form of an addendum. No oral comment shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addendum are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda on the form provided for this purpose in the Bid.
- 14. CITY'S RIGHTS RESERVED:** The City reserves the right to cancel the Notice Inviting Bids at any time, and further reserves the right to reject submitted Bids, without giving any reason for such action, at its sole discretion and without liability. Costs incurred by the Bidder(s) as a result of preparing Bids under the Notice Inviting Bids shall be the sole responsibility of each bidder. The Notice Inviting Bids creates or imposes no obligation upon the City to enter a contract.
- 15. CONTRACT PRICING FORMAT:** This solicitation is for a Lump Sum contract with Unit Price provisions as set forth in the Bid Proposal Form(s), Volume 2.
- 16. SUBMITTAL OF "OR EQUAL" ITEMS:** See Section 4-1.6, "Trade Names or Equals" in The WHITEBOOK and as amended in the SSP.
- 17. AWARD PROCESS:**
- 17.1.** The Award of this contract is contingent upon the Contractor's compliance with all conditions precedent to Award.
- 17.2.** Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening and award the Contract approximately within 7 days of receipt of properly executed Contract, bonds, and insurance documents.
- 17.3.** This contract will be deemed executed, and effective, only upon the signing of the Contract by the Mayor or designee of the City.

- 18. SUBCONTRACT LIMITATIONS:** The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 2-3, "SUBCONTRACTS" in The GREENBOOK and as amended in the SSP which requires the Contractor to self-perform not less than the specified amount. Failure to comply with this requirement shall render the bid **non-responsive** and ineligible for award.
- 19. AVAILABILITY OF PLANS AND SPECIFICATIONS:** Contract Documents may be obtained by visiting the City's website: <http://ww.sandiego.gov/cip/>. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Public Works Contracting Group.
- 20. SUBMISSION OF QUESTIONS:**
- 20.1.** The Director (or designee), of the Public Works Department is the officer responsible for opening, examining, and evaluating the competitive Bids 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 Contracting Group
1010 Second Avenue, 14th Floor
San Diego, California, 92101
Attention: [Contract Specialist listed on the front cover hereof]
- OR:
- Email address of the Contract Specialist listed on the front cover hereof.
- 20.2.** Questions received less than 14 days prior to the date for opening of Bids may not be considered.
- 20.3.** Clarifications deemed by the City to be material shall be issued by Addenda and uploaded to the City's online bidding service.
- 20.4.** Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. It is the Bidder's responsibility to become informed of any Addenda that have been issued and to include all such information in its Bid.
- 21. ELIGIBLE BIDDERS:** No person, firm, or corporation shall be allowed to make, file, or be interested in **more** than one (1) Bid for the same work unless alternate Bids are called for. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other Bidders or from submitting a Bid in its own behalf. Any Bidder who submits more than one bid will result in the rejection of all bids submitted.
- 22. SAN DIEGO BUSINESS TAX CERTIFICATE:** The Contractor and 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 and submit to the Contract Specialist upon request or as specified in the Contract Documents. Tax

Identification numbers for both the Bidder and the listed Subcontractors must be submitted on the City provided forms with the Notice Inviting Bids and Contract forms.

23. PROPOSAL FORMS: Bid shall be made only upon the Bidding Documents i.e., Proposal form attached to and forming a part of the specifications. The signature of each person signing shall be in longhand.

23.1. Bidder shall complete and submit all pages in the "Bidding Document" Section (see Volume 2) as their Bid per the schedule given under "Required Documents Schedule," (see Volume 1). Bidder is requested to retain for their reference other portions of the Contract Documents that are not required to be submitted with the Bid. The entire specifications for the bid package do not need to be submitted with the bid.

23.2. The City may require any Bidder to furnish a statement of experience, financial responsibility, technical ability, equipment, and references.

23.3. Bids and certain other forms and documents as specified in the Volume 2 of 2 of the Contract Documents shall be enclosed in a sealed envelope and shall bear the title of the work and name of the Bidder and the appropriate State Contractors License designation which the Bidder holds.

23.4. Bids may be withdrawn by the Bidder prior to, but not after, the time fixed for opening of Bids.

24. BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY):

24.1. With the exception of the contracts valued \$5,000 or less, JOC and Design-Build contracts, and contracts subject to the Small and Local Business Program of \$250,000 or less e.g., ELBE contracts, each Bidder shall accompany its Bid with either a cashier's check upon some responsible bank, or a check upon such bank properly certified or an approved corporate surety bond payable to the City of San Diego, for an amount of not less than 10% of the aggregate sum of the Bid, which check or bond, and the monies represented thereby shall be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into such contract and furnish the required final bonds.

24.2. The Bidder agrees that in case of Bidder's refusal or failure to execute this contract and give required final bonds, the money represented by a cashier's or certified check shall remain the property of the City, and if the Bidder shall fail to execute this contract, the Surety agrees that it will pay to the City damages which the City may suffer by reason of such failure, not exceeding the sum of 10% of the amount of the Bid.

24.3. A Bid received without the specified bid security will be rejected as being **non-responsive**.

25. AWARD OF CONTRACT OR REJECTION OF BIDS:

25.1. This contract may be awarded to the lowest responsible and reliable Bidder.

- 25.2. Bidders shall complete the entire Bid schedule (also referred to as “schedule of prices” or Proposal form). Incomplete price schedules will be rejected as being non-responsive.
- 25.3. The City reserves the right to reject any or all Bids, and to waive any informality or technicality in Bids received and any requirements of these specifications as to bidding procedure.
- 25.4. Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City from the Bidder within 3 Working Days, excluding Saturdays, Sundays, and state holidays, after the opening of Bids, of written notice which includes proof of honest, credible, clerical error of material nature, free from fraud or fraudulent intent, and of evidence that reasonable care was observed in the preparation of the Bid.
- 25.5. A non-selected Bidder may protest award of the Contract to the selected Bidder by submitting a written “Notice of Intent to Protest” including supporting documentation which shall be received by Public Works Contracting Group no later than 10 days after the City’s announcement of the selected Bidder or no later than 10 days from the date that the City issues notice of designation of a Bidder as non-responsive in accordance with San Diego Municipal Code Chapter 2, § 22.3029, “Protests of Contract Award.”
- 25.6. The City of San Diego will not discriminate with regard to race, religious creed, color, national origin, ancestry, physical handicap, marital status, sex or age, in the award of contracts.
- 25.7. Each Bid package properly executed as required by these specifications shall constitute a firm offer, which may be accepted by the City within the time specified in the Proposal.
- 25.8. The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of any proposed alternates, additive items or options, at its discretion that will be disclosed in the Volume 2 of 2.

26. BID RESULTS:

- 26.1. The Bid opening by the City shall constitute the public announcement of the Apparent Low Bidder. In the event that the Apparent Low Bidder is subsequently deemed non-responsive or non-responsible, a public announcement will be posted in the City’s web page <http://www.sandiego.gov/cip/index.shtml> with the name of the newly designated Apparent Low Bidder.
- 26.2. To obtain Bid results, either attend Bid opening, review the results on the City’s web site, or provide a self-addressed, stamped envelope, referencing Bid number, and Bid tabulation will be mailed to you upon verification of extensions. Bid results cannot be given over the telephone.

27. THE CONTRACT:

- 27.1.** The Bidder to whom award is made shall execute a written contract with the City of San Diego and furnish good and approved bonds and insurance certificates specified by the City within 14 days after receipt by Bidder of a form of contract for execution unless an extension of time is granted to the Bidder in writing.
- 27.2.** If the Bidder takes longer than 14 days to fulfill these requirements, then the additional time taken shall be added to the Bid guarantee. The Contract shall be made in the form adopted by the City, which includes the provision that no claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
- 27.3.** If the Bidder to whom the award is made fails to enter into the contract as herein provided, the award may be annulled and the Bidder's Guarantee of Good Faith will be subject to forfeiture. An award may be made to the next lowest responsible and reliable Bidder who shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.
- 27.4.** Pursuant to the San Diego City Charter section 94, the City may only award a public works contract to the lowest responsible and reliable Bidder. The City will require the Apparent Low Bidder to (i) submit information to determine the Bidder's responsibility and reliability, (ii) execute the Contract in form provided by the City, and (iii) furnish good and approved bonds and insurance certificates specified by the City within 14 Days, unless otherwise approved by the City, in writing after the Bidder receives notification from the City, designating the Bidder as the Apparent Low Bidder and formally requesting the above mentioned items.
- 27.5.** The award of the Contract is contingent upon the satisfactory completion of the above mentioned items and becomes effective upon the signing of the Contract by the Mayor or designee. If the Apparent Low Bidder does not execute the Contract or submit required documents and information, the City may award the Contract to the next lowest responsible and reliable Bidder who shall fulfill every condition precedent to award. A corporation designated as the Apparent Low Bidder shall furnish evidence of its corporate existence and evidence that the officer signing the Contract and bond for the corporation is duly authorized to do so.

- 28. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK:** The Bidder shall examine carefully the Project Site, the Plans and Specifications, other materials as described in the Special Provisions, Section 2-7, and the proposal forms (e.g., Bidding Documents). The submission of a Bid shall be conclusive evidence that the Bidder 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, and as to the requirements of the Bidding Documents Proposal, Plans, and Specifications.

29. CITY STANDARD PROVISIONS: This contract is subject to the following standard provisions. See The WHITEBOOK for details.

- 29.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.
- 29.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.
- 29.3.** The City of San Diego Municipal Code §22.3004 for Pledge of Compliance.
- 29.4.** The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.
- 29.5.** 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.
- 29.6.** The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
- 29.7.** The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

30. PRE-AWARD ACTIVITIES:

- 30.1.** The selected contractor by the City to execute a contract for this Work shall provide the information required within the time specified in "Required Documents," of this bid package. Failure to provide the information within the time specified may result in the Bid being rejected as **non-responsive**.
- 30.2.** If the Bid is rejected as non-responsive, the selected contractor by the City to execute a contract for this Work shall forfeit the required Bid. The decision that the selected contractor by the City to execute a contract for this Work is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.

31. REQUIRED DOCUMENT SCHEDULE:

- 31.1.** The Bidder's attention is directed to the City's Municipal Code §22.0807(e), (3)-(5) for important information regarding grounds for debarment for failure to submit required documentation.
- 31.2.** 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>

ITEM	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
1.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid
2.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid Bond
3.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Non-collusion Affidavit to be Executed By Bidder and Submitted with Bid under 23 USC 112 and PCC 7106
4.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Contractors Certification of Pending Actions
5.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Equal Benefits Ordinance Certification of Compliance
6.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA35 - List of Subcontractors
7.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Form AA40 - Named Equipment/Material Supplier List
8.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	SLBE Good Faith Efforts Documentation
9.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	Form AA60 – List of Work Made Available
10.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	Proof of Valid DBE-MBE-WBE-DVBE Certification Status e.g., Certs.
11.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Names of the principal individual owners of the Apparent Low Bidder
12.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	If the Contractor is a Joint Venture: <ul style="list-style-type: none"> • Joint Venture Agreement • Joint Venture License
13.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Form BB05 - Work Force Report

ITEM	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
14.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Agreement
15.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Payment and Performance Bond
16.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Certificates of Insurance and Endorsements
17.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - Drug-Free Workplace
18.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - American with Disabilities Act
19.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractors Standards - Pledge of Compliance

CONTRACT FORMS
AGREEMENT

CONTRACT FORMS

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and Atlas Development, Inc., herein called "Contractor" for construction of **Casa De Balboa and Museum of Man ADA Barrier Removal**; Bid No. **K-14-1199-DBB-3** in the amount of FIVE HUNDRED EIGHTY-NINE THOUSAND DOLLARS AND 00/100 (\$589,700.00), which is comprised of the Base Bid alone.

IN CONSIDERATION of the payments to be made hereunder and the mutual undertakings of the parties hereto, City and Contractor agree as follows:

1. The following are incorporated into this contract as though fully set forth herein:
 - (a) The attached Faithful Performance and Payment Bonds.
 - (b) The attached Proposal included in the Bid documents by the Contractor.
 - (c) Reference Standards listed in the Notice Inviting Bids and the Supplementary Special Provisions (SSP).
 - (d) That certain documents entitled **Casa De Balboa and Museum of Man ADA Barrier Removal**, on file in the office of the Public Works Department as Document No. **B-13018, B-13021** as well as all matters referenced therein.
2. The Contractor shall perform and be bound by all the terms and conditions of this contract and in strict conformity therewith shall perform and complete in a good and workmanlike manner **Casa De Balboa and Museum of Man ADA Barrier Removal**, Bid Number **K-14-1199-DBB-3**, San Diego, California.
3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and the Contractor shall accept such payment in full satisfaction of all claims incident to such performances.
4. No claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
5. This contract is effective as of the date that the Mayor or designee signs the agreement.

CONTRACT FORMS (continued)


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 AND LEGALITY

By 

Jan I. Goldsmith, City Attorney

By 

Print Name: _____
Stephen Samara
Senior Contract Specialist

Print Name: Mark M. Meice
Deputy City Attorney

Date: 7-25-14

Date: 7/28/14

CONTRACTOR

By 

Print Name: Mark Atefi

Title: President

Date: 7/14/14

City of San Diego License No.: 2010000550

State Contractor's License No.: 858038

**CONTRACT FORMS
ATTACHMENTS**

CONTRACT FORMS ATTACHMENTS
PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

Atlas Development, Inc., a corporation 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 **FIVE HUNDRED EIGHTY-NINE THOUSAND DOLLARS AND 00/100 (\$589,700.00)** for the faithful performance of the annexed contract, and in the sum of **FIVE HUNDRED EIGHTY-NINE THOUSAND DOLLARS AND 00/100 (\$589,700.00)** for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract **Casa De Balboa and Museum of Man ADA Barrier Removal**, Bid Number **K-14-1199-DBB-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 Chapter 3 of Division 5 of Title I of the Government Code of the State of California or under the provisions of Section 3082 et seq. 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.

CONTRACT FORMS ATTACHMENTS (continued)
PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND

The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

Dated July 11, 2014

Approved as to Form and Legality

Atlas Development Corporation

Principal

By M. St...

Printed Name of Person Signing for Principal

Jan I. Goldsmith, City Attorney

By Jan I. Goldsmith
Deputy City Attorney

Great American Insurance Company

Surety

By Tara Bacon
Tara Bacon, Attorney-in-fact

Approved:

By Stephen Samara
Stephen Samara
Senior Contract Specialist

750 The City Drive South, Suite 300

Local Address of Surety

Orange, CA 92868

Local Address (City, State) of Surety

714-740-3117

Local Telephone No. of Surety

Premium \$ 10,337.00

Bond No. 2119149

ACKNOWLEDGMENT

State of California
County of San Diego)

On July 11, 2014 before me, Maria Hallmark, Notary Public
(insert name and title of the officer)

personally appeared Tara Bacon,
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 *[Handwritten Signature]*

(Seal)



GREAT AMERICAN INSURANCE COMPANY®

Administrative Office: 301 E 4TH STREET • CINCINNATI, OHIO 45202 • 513-369-5000 • FAX 513-723-2740

The number of persons authorized by
this power of attorney is not more than FIVE

No. 0 14839

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the GREAT AMERICAN INSURANCE COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Ohio, does hereby nominate, constitute and appoint the person or persons named below, each individually if more than one is named, its true and lawful attorney-in-fact, for it and in its name, place and stead to execute on behalf of the said Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; provided that the liability of the said Company on any such bond, undertaking or contract of suretyship executed under this authority shall not exceed the limit stated below.

Name	Address	Limit of Power
DALE G. HARSHAW	KYLE KING	ALL
GEOFFREY SHELTON	JOHN R. QUALIN	\$75,000,000.00
TARA BACON	SAN DIEGO, CALIFORNIA	

This Power of Attorney revokes all previous powers issued on behalf of the attorney(s)-in-fact named above.

IN WITNESS WHEREOF the GREAT AMERICAN INSURANCE COMPANY has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 22ND day of APRIL 2013
Attest GREAT AMERICAN INSURANCE COMPANY



Assistant Secretary

Divisional Senior Vice President

DAVID C. KITCHIN (877-377-2405)

STATE OF OHIO, COUNTY OF HAMILTON - ss:

On this 22ND day of APRIL, 2013, before me personally appeared DAVID C. KITCHIN, to me known, being duly sworn, deposes and says that he resides in Cincinnati, Ohio, that he is a Divisional Senior Vice President of the Bond Division of Great American Insurance Company, the Company described in and which executed the above instrument; that he knows the seal of the said Company; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by authority of his office under the By-Laws of said Company, and that he signed his name thereto by like authority.



KAREN L. GROSHEIM
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 02-20-16

This Power of Attorney is granted by authority of the following resolutions adopted by the Board of Directors of Great American Insurance Company by unanimous written consent dated June 9, 2008.

RESOLVED: That the Divisional President, the several Divisional Senior Vice Presidents, Divisional Vice Presidents and Divisional Assistant Vice Presidents, or any one of them, be and hereby is authorized, from time to time, to appoint one or more Attorneys-in-Fact to execute on behalf of the Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; to prescribe their respective duties and the respective limits of their authority; and to revoke any such appointment at any time.

RESOLVED FURTHER: That the Company seal and the signature of any of the aforesaid officers and any Secretary or Assistant Secretary of the Company may be affixed by facsimile to any power of attorney or certificate of either given for the execution of any bond, undertaking, contract of suretyship, or other written obligation in the nature thereof, such signature and seal when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

CERTIFICATION

I, STEPHEN C. BERAHA, Assistant Secretary of Great American Insurance Company, do hereby certify that the foregoing Power of Attorney and the Resolutions of the Board of Directors of June 9, 2008 have not been revoked and are now in full force and effect.

Signed and sealed this 11th day of July, 2014



Assistant Secretary

CONTRACTOR CERTIFICATION

DRUG-FREE WORKPLACE

PROJECT TITLE: Casa De Balboa and Museum of Man ADA Barrier Removal

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;

Atlas Development
(Name under which business is conducted)

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.

Signed M Atafi

Printed Name Mark Atafi

Title President

CONTRACTOR CERTIFICATION

AMERICAN WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

PROJECT TITLE: Casa De Balboa and Museum of Man ADA Barrier Removal

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, "American With Disabilities Act", of the project specifications, and that;

Atlas Development

(Name under which business is conducted)

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.

Signed M Atefi

Printed Name Mark Atefi

Title President

CONTRACTOR CERTIFICATION

CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

PROJECT TITLE: Casa De Balboa and Museum of Man ADA Barrier Removal

I declare under penalty of perjury that I am authorized to make this certification on behalf of _____, as Contractor, that I am familiar with the requirements of City of San Diego Municipal Code § 22.3224 regarding Contractor Standards as outlined in the WHITEBOOK, Section 7-13.4, ("Contractor Standards"), 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 § 22.3224.

Dated this 14 Day of July, 2014.

Signed M. Atefi

Printed Name Mark Atefi

Title President

AFFIDAVIT OF DISPOSAL

WHEREAS, on the _____ DAY OF _____, 2____ the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

Casa De Balboa and Museum of Man ADA Barrier Removal

(Name of Project)

as particularly described in said contract and identified as Bid No. **K-14-1199-DBB-3** SAP No. (WBS/IO/CC) **B-13018, B-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

ATTACHMENTS

ATTACHMENT A
SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** Upgrade existing building to current ADA and Title 24 requirements.

1.1. The Work shall be performed in accordance with:

1.1.1 This Notice Inviting Bids and Plans numbered **37593-1-D** through **37593-23-D** and **37594-1-D** through **37594-11-D** inclusive.

2. **CONSTRUCTION COST:** The City's estimated construction cost for this contract is **\$742,000**.

3. **LOCATION OF WORK:** The location of the Work is as follows:

1649 El Prado, San Diego, CA 92101 and 1350 El Prado, San Diego, CA 92101. See Appendix E for Location Map.

4. **CONTRACT TIME:** The Contract Time for completion of the Work shall be **80 Working Days**.

5. **CONTRACTOR'S LICENSE CLASSIFICATION:** In accordance with the provisions of California Law, the Contractor shall possess valid appropriate license(s) at the time that the Bid is submitted. Failure to possess the specified license(s) shall render the Bid as **non-responsive** and shall act as a bar to award of the Contract to any Bidder not possessing required license(s) at the time of Bid.

5.1. The City has determined the following licensing classifications for this contract:

Option	Classifications
1	CLASS A
2	CLASS B

5.2. The Bidder shall satisfy the licensing requirement by meeting **at least** one of the listed options.

ATTACHMENT B
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ATTACHMENT C
EQUAL OPPORTUNITY CONTRACTING PROGRAM

EQUAL OPPORTUNITY CONTRACTING PROGRAM

1. To The WHITEBOOK, Chapter 10, Sections D and E, DELETE each in its entirety, and SUBSTITUTE with the following:

D. CITY'S EQUAL OPPORTUNITY COMMITMENT.

1. Nondiscrimination in Contracting Ordinance.

1. The Contractor, Subcontractors and Suppliers shall comply with requirements of the City's Nondiscrimination in Contracting Ordinance, San Diego Municipal Code §§22.3501 through 22.3517.

The Contractor shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers. The Contractor shall provide equal opportunity for subcontractors to participate in subcontracting opportunities. The Contractor 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.

The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. Disclosure of Discrimination Complaints. As part of its Bid or Proposal, 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 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.
3. Upon the City's request, the Contractor agrees to provide to the City, within 60 days, a truthful and complete list of the names of all Subcontractors and Suppliers that the Contractor has used in the past 5 years on any of its contracts that were undertaken within San Diego County, including the total dollar amount paid by the Contractor for each subcontract or supply contract.
4. The Contractor further agrees to fully cooperate in any investigation conducted by the City pursuant to the City's Nondiscrimination in Contracting Ordinance, Municipal Code §§22.3501 through 22.3517. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against the Contractor up to and including contract termination, debarment and other sanctions for violation of the provisions of the Nondiscrimination in Contracting Ordinance. The Contractor further understands and agrees that the procedures, remedies and sanctions provided for in the Nondiscrimination in Contracting Ordinance apply only to violations of the Ordinance.

E. EQUAL EMPLOYMENT OPPORTUNITY OUTREACH PROGRAM.

1. The Contractor, Subcontractors and Suppliers shall comply with the City's Equal Employment Opportunity Outreach Program, San Diego Municipal Code §§22.2701 through 22.2707.

The Contractor shall not discriminate against any employee or applicant for employment on any basis prohibited by law. Contractor shall provide equal opportunity in all employment practices. Prime Contractor shall ensure their subcontractors comply with this program. Nothing in this section shall be interpreted to hold a prime contractor liable for any discriminatory practice of its subcontractors.

The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. If the Contract is competitively solicited, the selected Bidder shall submit a Work Force Report (Form BB05), within 10 Working Days after receipt by the Bidder of Contract forms to the City for approval as specified in the Notice of Intent to Award letter from the City.
3. If a Work Force Report is submitted, and the City determines there are under-representations when compared to County Labor Force Availability data, the selected Bidder shall submit an Equal Employment Opportunity Plan.
4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:
 1. The Contractor shall maintain a working environment free of discrimination, harassment, intimidation and coercion at all sites and in all facilities at which the Contractor's employees are assigned to work.
 2. The Contractor reviews its EEO Policy, at least annually, with all on-site supervisors involved in employment decisions.
 3. The Contractor disseminates and reviews its EEO Policy with all employees at least once a year, posts the policy statement and EEO posters on all company bulletin boards and job sites, and documents every dissemination, review and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.
 4. The Contractor reviews, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintains written documentation of these reviews.
 5. The Contractor discusses its EEO Policy Statement with subcontractors with whom it anticipates doing business, includes the EEO Policy Statement in its subcontracts, and provides such documentation to the City upon request.

6. The Contractor documents and maintains a record of all bid solicitations and outreach efforts to and from subcontractors, contractor associations and other business associations.
7. The Contractor disseminates its EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit, maintains files documenting these efforts, and provides copies of these advertisements to the City upon request.
8. The Contractor disseminates its EEO Policy to union and community organizations.
9. The Contractor provides immediate written notification to the City when any union referral process has impeded the Contractor's efforts to maintain its EEO Policy.
10. The Contractor maintains a current list of recruitment sources, including those outreaching to people of color and women, and provides written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.
11. The Contractor maintains a current file of names, addresses and phone numbers of each walk-in applicant, including people of color and women, and referrals from unions, recruitment sources, or community organizations with a description of the employment action taken.
12. The Contractor encourages all present employees, including people of color and women employees, to recruit others.
13. The Contractor maintains all employment selection process information with records of all tests and other selection criteria.
14. The Contractor develops and maintains documentation for on-the-job training opportunities, participates in training programs, or both for all of its employees, including people of color and women, and establishes apprenticeship, trainee, and upgrade programs relevant to the Contractor's employment needs.
15. The Contractor conducts, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourages all employees to seek and prepare appropriately for such opportunities.
16. The Contractor ensures the company's working environment and activities are non-segregated except for providing separate or single-user toilets and necessary changing facilities to assure privacy between the sexes.

ATTACHMENT D
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ATTACHMENT E
SUPPLEMENTARY SPECIAL PROVISIONS

SUPPLEMENTARY SPECIAL PROVISIONS

The following Supplementary Special Provisions (SSP) modifies the following documents:

- 1) Standard Specifications for Public Works Construction (The GREENBOOK) currently in effect.
 - 2) The City of San Diego Standard Specifications for Public Works Construction (The WHITEBOOK).
-

SECTION 1 – TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

1-2 TERMS AND DEFINITIONS.

Normal Working Hours. To the City Supplement, ADD the following: (s)

The Normal Working Hours are 7:00 AM to 3:30 PM.

SECTION 2 - SCOPE AND CONTROL OF WORK

2-3.2 Self Performance. DELETE in its entirety and SUBSTITUTE with the following:

1. You must perform, with your own organization, Contract work amounting to at least 50% of the base bid alone or base bid and any additive or deductive alternate(s) that together when added or deducted form the basis of award.

2-5.3.1 General. To the City Supplement, ADD the following

7. For products for which an AML is available, products listed in the AML shall be used. A submittal review will be conducted for products not identified on an AML on a case-by-case basis when:
 - a) The product type or category is not in the AML.
 - b) The AML does not list at least two available manufacturers of the product.
 - c) The material or manufacturer listed in the AML is no longer available. Documentation to substantiate the product is no longer available or in production is required as part of the submittal.

In the case of conducting a submittal review when required by the Plans or Special Provisions, or when requested by the Engineer, all submittals shall be accompanied by the City's submittal form.

The Product Submittal Form is available for download at:

<http://www.sandiego.gov/publicworks/edocref/index.shtml>

2-9.2 Survey Service. DELETE in its entirety and SUBSTITUTE with the following:

The Contractor shall be responsible for all surveying services or as may be specified in these special provisions.

The payment for survey services shall be included in the various Bid items unless a Bid item for Survey Service has been provided.

2-14.3 Coordination. To the City Supplement, ADD the following:

Other adjacent City project(s) (are) scheduled for construction for the same time period in the vicinity of Museum of Man. See Appendix "F" for approximate location. Coordinate the Work with the adjacent projects(s) as listed below:

- a) California Tower Electrical Room System Relocation and Upgrade at Museum of Man, SDG&E Room Relocation at Museum of Man, and Museum of Man Interior Repair, **George Freiha, 619-533-7449**

ADD:

2-18 Contractor Experience. Contractor must demonstrate experience completing similar type of work within the past (3) years.

SECTION 4 - CONTROL OF MATERIALS

4-1.3.4 Inspection Paid for by the Contractor. To the City Supplement, ADD the following:

- Welding Inspector

4-1.3.6 Preapproved Materials. To the City Supplement, 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. ADD the following:

You must submit your list of proposed substitutions for “an equal” (“or equal”) item(s) **no less than 15 Working Days prior to Bid due date and** on the City’s Product Submittal Form available at.

<http://www.sandiego.gov/publicworks/edocref/index.shtml>

SECTION 6 - PROSECUTION, PROGRESS AND ACCEPTANCE OF WORK

6-2.1 Moratoriums. To the City Supplement, ADD the following:

Do not work in the areas where there is currently a moratorium issued by the City. The areas subject to moratorium are listed here:

- a) Casa De Balboa from December 1, 2014 to January 2, 2016 (inclusive).
- b) Museum of Man from December 1, 2014 to January 2, 2016 (inclusive).

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-3 LIABILITY INSURANCE. DELETE in its entirety and SUBSTITUTE with the following:

The insurance provisions herein must not be construed to limit your indemnity obligations contained in the Contract.

7-3.1 Policies and Procedures.

1. You must 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 must 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. Payment for insurance is included in the various items of Work as bid by you, and 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 must 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 must 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 must 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 must be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You must maintain the same or equivalent insurance for at least 10 years following completion of the Work.
4. All costs of defense must be outside the policy limits. Policy coverage must 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 must 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 must be outside the limits of the policy.

7-3.2.5 Contractors Builders Risk Property Insurance..

1. You must provide at its expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance must 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 must 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 must include material or portions of the Work located away from the Site but intended for use at the Site, and must cover material or portions of the Work in transit. The policy or policies must include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies must cover the cost of removing debris, including demolition.
3. The policy or policies must provide that all proceeds thereunder must be payable to the City as Trustee for the insured, and must name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. We 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 must 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 must 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 must 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 must be entitled to 100% of its loss. The Contractor must 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 must be responsible for 100% of the loss not insured because of the deductible. Except as provided for under California law, the policy or policies must 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 must 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 must 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 must 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.

- a) You must 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.
- b) To the fullest extent allowed by law e.g., California Insurance Code §11580.04, the policy must be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured.
- c) The additional insured coverage for projects for which the Engineer's Estimate is \$1,000,000 or more must 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.
- d) The additional insured coverage for projects for which the Engineer's Estimate is less than \$1,000,000 must 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 must 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 must provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives must be in excess of your insurance and must not contribute to it.

7-3.5.1.3 Project General Aggregate Limit. The policy or policies must 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 must reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit must 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 must 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.

7-3.5.5 Builders Risk Endorsements.

7-3.5.5.1 Waiver of Subrogation. The policy or policies must 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 desire 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 must immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies must not be cancelled or lapse on account of any such partial use or occupancy. You must obtain the endorsement prior to our occupation and use.

7-3.6 Deductibles and Self-Insured Retentions. You must pay for all deductibles and self-insured retentions. You must 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 must 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 must follow the form of the primary policy or policies e.g., all endorsements.

7-4 WORKERS' COMPENSATION INSURANCE. DELETE in its entirety and SUBSTITUTE with the following:

7-4.1 Workers' Compensation Insurance and Employers Liability Insurance.

1. In accordance with the provisions of §3700 of the California Labor Code, you must 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.

2. Limits for this insurance must 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

3. By signing and returning the Contract you certify that you are aware of the provisions of §3700 of the Labor Code which require 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 must comply with such provisions before commencing the Work as required by §1861 of the California Labor Code.

7-4.1.1 Waiver of Subrogation. The policy or policies must 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.

7-8.6 Water Pollution Control. ADD the following:

1. Based on a preliminary assessment by the City, the Contract is subject to WPCP.

7-10.5.3 Steel Plate Covers. Table 7-10.5.3(A), REVISE the plate thickness for 5'-3" trench width to read 1 3/4".

7-15 INDEMNIFICATION AND HOLD HARMLESS AGREEMENT. To the City Supplement, fourth paragraph, last sentence, DELETE in its entirety and SUBSTITUTE with the following:

Your duty to indemnify and hold harmless does not include any claims or liability arising from the established active or sole negligence, or willful misconduct of the City, its officers, or employees.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-2 FIELD OFFICE FACILITIES. To the City Supplement, DELETE in its entirety.

SECTION 9 - MEASUREMENT AND PAYMENT

9-3.2.5 Withholding of Payment. To the City Supplement, item i), DELETE in its entirety and SUBSTITUTE with the following:

i) Your failure to comply with 7-2.3, "PAYROLL RECORDS" and 2-16, "CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM."

ADD:

- 9-3.7** Compensation Adjustments for Price Index Fluctuations. This Contract is not subject to the provisions of The WHITEBOOK for Compensation Adjustments for Price Index Fluctuations for the paving asphalt.

SECTION 707 – RESOURCE DISCOVERIES

ADD:

- 707-1.1** **Environmental Document.** The City of San Diego Environmental Analysis Section (EAS) of the Development Services Department has prepared **Notice of Exemption** for **Casa de Balboa and Museum of Man ADA Barrier Removal**, PTS DEP No. **330289 and 330886**, as referenced in the Contract Appendix. You must comply with all requirements of the **Notice of Exemption** as set forth in the Contract Appendix A.

Compliance with the City’s environmental document is included in the various Bid items, unless a bid item has been provided.

SECTION 708 – ASBESTOS MATERIALS

- 708-5** **Friable Asbestos. To the City Supplement, ADD** the following:

Asbestos to be removed by others. See Appendix F for the Asbestos and Lead Report.

END OF SUPPLEMENTARY SPECIAL PROVISIONS (SSP)

TECHNICALS SPECIFICATIONS

CASA DE BALBOA ADA BARRIER REMOVAL

TECHNICAL SPECIFICATIONS

DIVISION 01 – GENERAL REQUIREMENTS

017300 EXECUTION

DIVISION 02 – SITE CONDITIONS

024119 SELECTIVE STRUCTURE DEMOLITION

DIVISION 05 – METALS

057300 DECORATIVE METAL RAILINGS

DIVISION 06 – WOODS, PLASTICS AND COMPONENTS

061053 MISCELLANEOUS ROUGH CARPENTRY

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

079200 JOINT SEALANTS

DIVISION 08 – OPENINGS

081113 HOLLOW METAL DOORS AND FRAMES

087100 DOOR HARDWARE

DIVISION 09 – FINISHES

093013 CERAMIC TILE

099123 INTERIOR PAINTING

099600 HIGH PERFORMANCE COATINGS

DIVISION 10 – SPECIALTIES

101400 SIGNS

102113 TOILET COMPARTMENTS

102800 TOILET ACCESSORIES

DIVISION 22 – PLUMBING

220500 COMMON WORK RESULTS FOR PLUMBING

220529 HANGERS AND SUPPORTS FOR PLUMBING

220533 PLUMBING IDENTIFICATION

220700 PLUMBING INSULATION

221100 DOMESTIC WATER PIPING AND SPECIALTIES

221300 SANITARY WASTE VENT AND SPECIALTIES

224000 PLUMBING FIXTURES

DIVISION 26 – ELECTRICAL

260000 ELECTRICAL REQUIREMENTS

END TABLE OF CONTENTS

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Installation of the Work.
 - 2. Cutting and patching.
 - 3. Progress cleaning.
 - 4. Starting and adjusting.
 - 5. Protection of installed construction.
 - 6. Correction of the Work.
- B. Related Requirements:
 - 1. Section 024119 "Selective Structure Demolition" for demolition and removal of selected portions of the building.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Resident Engineer of locations and details of cutting and await directions from Resident Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire-suppression systems.
 - c. Mechanical systems piping and ducts.
 - d. Control systems.
 - e. Communication systems.

- f. Fire-detection and -alarm systems.
 - g. Electrical wiring systems.
3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Resident Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
- 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Resident Engineer for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
- 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
- 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, notify the Resident Engineer

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Resident Engineer promptly.
- B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm

that adequate provisions are made for locating and installing products to comply with indicated requirements.

- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Resident Engineer.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching as needed.
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

END OF SECTION 017300

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Salvage of existing items to be reused or recycled.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for cutting and patching procedures.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for dust control and for noise control. Indicate proposed locations and construction of barriers.

- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's and other tenants' on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- D. Predemolition Photographs or Video: Submit before Work begins.

1.5 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Resident Engineer of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Resident Engineer and Owner. Hazardous materials will be removed by Owner under a separate contract.
- D. Historic Areas: Demolition and hauling equipment and other materials shall be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, including temporary protection, by 12 inches or more.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Resident Engineer.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or preconstruction videotapes.
 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Arrange to shut off indicated utilities with utility companies.
2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling as needed.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Dispose of demolished items and materials promptly.
- B. Work in Historic Areas: Selective demolition may be performed only in areas of the Project that are not designated as historic. Confirm with Resident Engineer the removal of any building elements that may be considered Historic.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Resident Engineer.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Resident Engineer, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 4. Comply with requirements specified in City of San Diego "Whitebook."
- B. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 057300 - DECORATIVE METAL RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Steel and iron decorative railings.
- B. Related Requirements:
 - 1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking for anchoring railings.

1.2 DEFINITIONS

- A. Railings: Guards, handrails, and similar devices used for protection of occupants at open-sided floor areas and for pedestrian guidance and support, visual separation, or wall protection.

1.3 COORDINATION AND SCHEDULING

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written instructions to ensure that shop primers and topcoats are compatible.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not meet structural performance requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of railings assembled from standard components.
 - 2. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, and attachment details.
- C. Samples for Initial Selection: For products involving selection of color, texture, or design, including mechanical finishes.

1.5 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Build mockups as shown on Drawings.
 - 2. Build mockups for each form and finish of railing consisting of two posts, top rail, infill area, and anchorage system components that are full height and are not less than 24 inches in length.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS (or approved equal)

- A. Steel and Iron Decorative Railings:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Blum, Julius & Co., Inc.
 - b. J. G. Braun Company.
 - c. King Architectural Metals.
 - d. Indital USA.
 - e. Livers Bronze Co.
 - f. Olin Wrought Iron.
 - g. R & B Wagner, Inc.
 - h. Regency Railings.
 - i. Wiemann Metalcraft.
- B. Source Limitations: Obtain each type of railing from single source from single manufacturer.
- C. Product Options: Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods, including structural analysis, preconstruction testing, field testing, and in-service performance.

1. Do not modify intended aesthetic effects, as judged solely by Resident Engineer, except with Resident Engineer's approval. If modifications are proposed, submit comprehensive explanatory data to Resident Engineer for review.

2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft..
 - b. Infill load and other loads need not be assumed to act concurrently.

2.3 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Same metal and finish as supported rails unless otherwise indicated.
 1. Provide either formed- or cast-metal brackets with predrilled hole for exposed bolt anchorage.
 2. Provide formed-steel brackets with predrilled hole for bolted anchorage and with snap-on cover that matches rail finish and conceals bracket base and bolt head.

2.4 STEEL AND IRON

- A. Tubing: ASTM A 500/A 500M (cold formed) or ASTM A 513.
- B. Bars: Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.
- C. Plates, Shapes, and Bars: ASTM A 36/A 36M.
- D. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

2.5 FASTENERS

- A. Fastener Materials: Unless otherwise indicated, provide the following:

1. Uncoated Steel Components: Plated-steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating where concealed; Type 304 stainless-steel fasteners where exposed.
 2. Galvanized-Steel Components: Plated-steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.
 3. Dissimilar Metals: Type 304 stainless-steel fasteners.
- B. Fasteners for Anchoring to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated.
- C. Provide concealed fasteners for interconnecting railing components and for attaching railings to other work unless exposed fasteners are the standard fastening method for railings indicated.
1. Provide square or hex socket flat-head machine screws for exposed fasteners unless otherwise indicated.
- D. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193 or ICC-ES AC308.
1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.6 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- B. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- C. Shop Primer for Galvanized Steel: Cementitious galvanized metal primer complying with MPI#26.
- D. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
1. Water-Resistant Product: At exterior locations provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.7 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

- B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate. Locate weep holes in inconspicuous locations.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds; no evidence of a welded joint.
- I. Mechanical Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 - 1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.
- J. Form changes in direction as follows:
 - 1. By bending to smallest radius that will not result in distortion of railing member.
- K. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- L. Close exposed ends of hollow railing members with prefabricated end fittings.
- M. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns, unless clearance between end of rail and wall is 1/4 inch or less.

- N. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.8 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" recommendations for applying and designating finishes.
- B. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.9 STEEL AND IRON FINISHES

- A. Galvanized Railings:
 - 1. Hot-dip galvanize exterior steel and iron railings, including hardware, after fabrication.
 - 2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
 - 3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.
 - 4. Do not quench or apply post-galvanizing treatments that might interfere with paint adhesion.
 - 5. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.
- B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.
- C. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.
- D. For nongalvanized-steel railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, but galvanize anchors to be embedded in exterior concrete or masonry.
- E. Preparing Nongalvanized Items for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- F. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.
- G. Powder-Coat Finish: Prepare, treat, and coat nongalvanized ferrous metal to comply with resin manufacturer's written instructions and as follows:
 - 1. Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2. Treat prepared metal with iron-phosphate pretreatment, rinse, and seal surfaces.
 - 3. Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils.

4. Color: As selected by Architect from manufacturer's full range.
- H. Powder-Coat Finish: Prepare, treat, and coat galvanized metal to comply with resin manufacturer's written instructions and as follows:
1. Prepare galvanized metal by thoroughly removing grease, dirt, oil, flux, and other foreign matter.
 2. Treat prepared metal with zinc-phosphate pretreatment, rinse, and seal surfaces.
 3. Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils.
 4. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.2 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

3.3 ANCHORING POSTS

- A. Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.
- B. Cover anchorage joint with flange of same metal as post, welded to post after placing anchoring material.
- C. Anchor posts to metal surfaces with flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For steel railings, weld flanges to posts and bolt to metal-supporting surfaces.

3.4 ATTACHING RAILINGS

- A. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and connected to railing ends using nonwelded connections.
- B. Attach handrails to walls with wall brackets. Provide brackets with 1-1/2-inch clearance from inside face of handrail and finished wall surface. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
 - 1. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt.
 - 2. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

3.5 CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

3.6 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 057300

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wood blocking and nailers.
 - 2. Wood furring.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

2.2 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Furring.
- B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber and the following species:
 - 1. Douglas –fir/larch (north);.
- C. For concealed boards, provide lumber with **15** percent maximum moisture content and the following species and grades:
 - 1. Douglas –fir/larch (north);.
- D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.3 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners **with hot-dip zinc coating complying with ASTM A 153/A 153M**.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Metal Framing: **ASTM C 1002**, length as recommended by screw manufacturer for material being fastened.
- F. Lag Bolts: ASME B18.2.1.
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

2.4 MISCELLANEOUS MATERIALS

- A. Adhesives for Gluing **Furring and Sleepers** to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate **furring**, nailers, blocking, **grounds**, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

- C. Do not splice structural members between supports unless otherwise indicated.
- D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- E. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- G. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD GROUND, SLEEPER, BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 PROTECTION

- A. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.

1.2 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

1.5 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.

2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 SILICONE JOINT SEALANTS

- A. Mildew-Resistant, Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Pecora Corporation; 898.

2.3 URETHANE JOINT SEALANTS

- A. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Building Systems; Sonolastic NP1.
 - b. Bostik, Inc.; Chem-Calk 900.
 - c. May National Associates, Inc.; Bondaflex PUR 25.
 - d. Pacific Polymers International, Inc.; Elasto-Thane 230 Type II.
 - e. Pecora Corporation; Dynatrol I-XL.
 - f. Polymeric Systems, Inc.; Flexiprene 1000.
 - g. Schnee-Morehead, Inc.; Permathane SM7100.
 - h. Sika Corporation, Construction Products Division; Sikaflex - 1a.
 - i. Tremco Incorporated; Vulkem 116.
- B. Immersible, Single-Component, Nonsag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Uses T and I.
 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic NP1.

- b. Sika Corporation, Construction Products Division; Sikaflex - 1a.
- c. Tremco Incorporated; Vulkem 116.

2.4 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolac.
 - b. Bostik, Inc.; Chem-Calk 600.
 - c. May National Associates, Inc.; Bondaflex 600.
 - d. Pecora Corporation; AC-20+.
 - e. Schnee-Morehead, Inc.; SM 8200.
 - f. Tremco Incorporated; Tremflex 834.

2.5 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or

deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior and interior joints in horizontal traffic surfaces subject to water exposure.
 - 1. Joint Locations:
 - a. Joints in swimming pool decks at showers.
 - b. Other joints as indicated.
 - 2. Urethane Joint Sealant: Immersible, single component, nonsag, traffic grade
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Control and expansion joints in unit masonry.
 - c. Tile control and expansion joints.
 - d. Joints between different materials listed above.
 - e. Perimeter joints between materials listed above and frames of doors and louvers.
 - f. Other joints as indicated.
 - 2. Urethane Joint Sealant: Single component, nonsag, Class 25.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Vertical joints on exposed surfaces of walls.
 - d. Other joints as indicated.
 - 2. Joint Sealant: Latex.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

- D. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 - c. Other joints as indicated.
2. Joint Sealant: Mildew resistant, single component, nonsag, neutral curing, Silicone
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07920

SECTION 081113 - HOLLOW METAL DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Custom hollow metal doors.
- B. Related Sections:
 - 1. Division 08 Section "Door Hardware" for door hardware for hollow metal doors.

1.2 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings.
- B. Custom Hollow Metal Work: Hollow metal work fabricated according to ANSI/NAAMM-HMMA 861.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire-resistance rating, temperature-rise ratings, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each door design.
 - 2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
 - 3. Locations of reinforcement and preparations for hardware.
 - 4. Details of accessories.
- C. Other Action Submittals:
 - 1. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of hollow metal door and frame assembly.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to finish of factory-finished units.
- B. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch-high wood blocking. Do not store in a manner that traps excess humidity.
 1. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MANUFACTURERS (or approved equal)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Ceco Door Products; an Assa Abloy Group company.
 2. Curries Company; an Assa Abloy Group company.
 3. Security Metal Products Corp.
 4. Steelcraft; an Ingersoll-Rand company.

2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.
- D. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6- to 12-lb/cu. ft. density; with maximum flame-spread and smoke-development indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

2.3 CUSTOM HOLLOW METAL DOORS

- A. General: Provide doors not less than 1-3/4 inches thick, of seamless hollow construction unless otherwise indicated. Construct doors with smooth surfaces without visible joints or seams on exposed faces. Comply with ANSI/NAAMM-HMMA 861.

- B. Door Face Sheets: Fabricated from metallic-coated steel sheet, minimum 0.053 inch thick.
- C. Core Construction: Provide thermal-resistance-rated cores for exterior doors.
 - 1. Steel-Stiffened Core: 0.026-inch- thick, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart, spot welded to face sheets a maximum of 5 inches o.c. Spaces filled between stiffeners with glass- or mineral-fiber insulation.
 - a. Fire Door Core: As required to provide fire-protection ratings indicated.
 - b. Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal-resistance value (R-value) of not less than 4.0 deg F x h x sq. ft./Btu when tested according to ASTM C 1363.
- D. Vertical Edges for Single-Acting Doors: Beveled 1/8 inch in 2 inches.
- E. Top and Bottom Channels: Closed with continuous channels, minimum 0.053 inch thick, of same material as face sheets and spot welded to both face sheets.
- F. Hardware Reinforcement: Fabricate according to ANSI/NAAMM-HMMA 861 with reinforcing plates from same material as door face sheets.

2.4 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/NAAMM-HMMA 861.
- C. Hollow Metal Doors:
 - 1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
 - 2. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- D. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.

- E. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
 - 1. Locate hardware as indicated, or if not indicated, according to ANSI/NAAMM-HMMA 861.
 - 2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
 - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
 - 4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

2.5 STEEL FINISHES

- A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.
 - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- B. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:
 - a. Jamb and Head: 1/8 inch plus or minus 1/16 inch.
 - b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
 - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
 - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- B. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- C. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 081113

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY:

- A. Section Includes: Finish Hardware for door openings, except as otherwise specified herein.
1. Door hardware for steel (hollow metal) doors.
 2. Door hardware for wood doors.
 3. Keyed cylinders as indicated.
- B. References: Comply with applicable requirements of the following standards. Where these standards conflict with other specific requirements, the most restrictive shall govern.
1. Builders Hardware Manufacturing Association (BHMA)
 2. NFPA 101 Life Safety Code
 3. NFPA 80 -Fire Doors and Windows
 4. ANSI-A156.xx- Various Performance Standards for Finish Hardware
 5. UL10C – Positive Pressure Fire Test of Door Assemblies
 6. ANSI-A117.1 – Accessible and Usable Buildings and Facilities
 7. DHI /ANSI A115.IG – Installation Guide for Doors and Hardware
 8. ICC – International Building Code
- C. Intent of Hardware Groups
1. Should items of hardware not definitely specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.
 2. Where items of hardware aren't definitely or correctly specified, are required for completion of the Work, a written statement of such omission, error, or other discrepancy to be submitted to Resident Engineer, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.

1.2 SUBMITTALS:

- A. Special Submittal Requirements: Combine submittals of this Section with Sections listed below to ensure the "design intent" of the system/assembly is understood and can be reviewed together.
- B. Product Data: Manufacturer's specifications and technical data including the following:
1. Detailed specification of construction and fabrication.
 2. Manufacturer's installation instructions.
 3. Submit 6 copies of catalog cuts with hardware schedule.

- C. Shop Drawings - Hardware Schedule: Submit 6 complete reproducible copy of detailed hardware schedule in a vertical format.
 - 1. List groups and suffixes in proper sequence.
 - 2. Completely describe door and list architectural door number.
 - 3. Manufacturer, product name, and catalog number.
 - 4. Function, type, and style.
 - 5. Size and finish of each item.
 - 6. Mounting heights.
 - 7. Explanation of abbreviations and symbols used within schedule.

- D. Templates: Submit templates and "reviewed Hardware Schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.
 - 1. Templates, wiring diagrams and "reviewed Hardware Schedule" of electrical terms to electrical for coordination and verification of voltages and locations.

- E. Contract Closeout Submittals:
 - 1. Operating and maintenance manuals: Submit 3 sets containing the following.
 - a. Complete information in care, maintenance, and adjustment, and data on repair and replacement parts, and information on preservation of finishes.
 - b. Catalog pages for each product.
 - c. Name, address, and phone number of local representative for each manufacturer.
 - d. Parts list for each product.
 - 2. Copy of final hardware schedule, edited to reflect, "As installed".
 - 3. Copy of final keying schedule
 - 4. One set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

1.3 QUALITY ASSURANCE

- A. Statement of qualification for distributor and installers.

- B. Statement of compliance with regulatory requirements and single source responsibility.

- C. Distributor's Qualifications: Firm with 3 years experience in the distribution of commercial hardware.
 - 1. Distributor to employ full time Architectural Hardware Consultants (AHC) for the purpose of scheduling and coordinating hardware and establishing keying schedule.
 - 2. Hardware Schedule shall be prepared and signed by an AHC.

- D. Installer's Qualifications: Firm with 3 years experienced in installation of similar hardware to that required for this Project, including specific requirements indicated.

- E. Regulatory Label Requirements: Provide testing agency label or stamp on hardware for labeled openings.
 - 1. Provide UL listed hardware for labeled and 20 minute openings in conformance with requirements for class of opening scheduled.
 - 2. Underwriters Laboratories requirements have precedence over this specification where conflict exists.
- F. Single Source Responsibility: Except where specified in hardware schedule, furnish products of only one manufacturer for each type of hardware.
- G. Review Project for extent of finish hardware required to complete the Work. Where there is a conflict between these Specifications and the existing hardware, notify the Resident Engineer in writing and furnish hardware in compliance with the Specification unless otherwise directed in writing by the Resident Engineer.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping:
 - 1. Deliver products in original unopened packaging with legible manufacturer's identification.
 - 2. Package hardware to prevent damage during transit and storage.
 - 3. Mark hardware to correspond with "reviewed hardware schedule".
 - 4. Deliver hardware to door and frame manufacturer upon request.
- B. Storage and Protection: Comply with manufacturer's recommendations.

1.5 PROJECT CONDITIONS

- A. Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for the proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents.
- B. Review Shop Drawings for doors and entrances to confirm that adequate provisions will be made for the proper installation of hardware.

1.6 WARRANTY

- A. Refer to Conditions of the Contract
- B. Manufacturer's Warranty:
 - 1. Closers: Ten years
 - 2. Exit Devices: Five Years
 - 3. Locksets & Cylinders: Three years
 - 4. All other Hardware: Two years.

1.7 OWNER'S INSTRUCTION

- A. Instruct Owner's personnel in operation and maintenance of hardware units.

1.8 MAINTENANCE

- A. Extra Service Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels.
1. Special Tools: Provide special wrenches and tools applicable to each different or special hardware component.
 2. Maintenance Tools: Provide maintenance tools and accessories supplied by hardware component manufacturer.
 3. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra service materials.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The following manufacturers are approved subject to compliance with requirements of the Contract Documents.

<u>Item:</u>	<u>Manufacturer:</u>	<u>Approved:</u>
Hinges	Stanley	McKinney
Locksets	Best	City Standard
Cylinders	Best	City Standard
Exit Devices	Precision	City Standard
Closers	Sargent 281	Stanley D-4550
Rod Guards	Don-Jo	
Protection Plates	Trimco	Don-Jo
Overhead Stops	ABH	Don-Jo
Door Stops	Trimco	Don-Jo
Threshold & Gasketing	Reese	Zero

2.2 MATERIALS

- A. Hinges: Shall be Five Knuckle Ball bearing hinges
1. Template screw hole locations
 2. Bearings are to be fully hardened.
 3. Bearing shell is to be consistent shape with barrel.
 4. Minimum of 2 permanently lubricated non-detachable bearings on standard weight hinge and 4 permanently lubricated bearing on heavy weight hinges.
 5. Equip with easily seated, non-rising pins.
 6. Non Removable Pin screws shall be slotted stainless steel screws.
 7. Hinges shall be full polished, front, back and barrel.
 8. Hinge pin is to be fully plated.
 9. Bearing assembly is to be installed after plating.

10. Sufficient size to allow 180-degree swing of door
11. Furnish five knuckles with flush ball bearings
12. Provide hinge type as listed in schedule.
13. Furnish 3 hinges per leaf to 7 foot 6 inch height. Add one for each additional 30 inches in height or fraction thereof.
14. Tested and approved by BHMA for all applicable ANSI Standards for type, size, function and finish
15. UL10C listed for Fire rated doors.

B. Mortise Type Locks and Latches:

1. Tested and approved by BHMA for ANSI A156.13, Series 1000, Operational Grade 1, Extra-Heavy Duty, Security Grade 2 and be UL10C.
2. Furnish UL or recognized independent laboratory certified mechanical operational testing to 4 million cycles minimum.
3. Provide 9001-Quality Management and 14001-Environmental Management.
4. Fit ANSI A115.1 door preparation
5. Functions and design as indicated in the hardware groups
6. Solid, one-piece, 3/4-inch (19mm) throw, anti-friction latchbolt made of self-lubricating stainless steel
7. Deadbolt functions shall have 1 inch (25mm) throw bolt made of hardened stainless steel
8. Latchbolt and Deadbolt are to extend into the case a minimum of 3/8 inch (9.5mm) when fully extended
9. Auxiliary deadlatch to be made of one piece stainless steel, permanently lubricated
10. Provide sufficient curved strike lip to protect door trim
11. Lever handles must be of forged or cast brass, bronze or stainless steel construction and conform to ANSI A117.1. Levers that contain a hollow cavity are not acceptable
12. Lock shall have self-aligning, thru-bolted trim
13. Levers to operate a roller bearing spindle hub mechanism
14. Mortise cylinders of lock shall have a concealed internal setscrew for securing the cylinder to the lockset. The internal setscrew will be accessible only by removing the core, with the control key, from the cylinder body.
15. Spindle to be designed to prevent forced entry from attacking of lever
16. Provide locksets with 7-pin removable and interchangeable core cylinders
17. Each lever to have independent spring mechanism controlling it
18. Core face must be the same finish as the lockset.

C. Cylindrical Grade 2 Type Locks and Latchsets:

1. Certified by BHMA for ANSI A156.3, Series 4000, Operational Grade 2.
2. Fit modified ANSI A115.3 door preparation
3. Locksets and cores to be of the same manufacturer to maintain complete lockset warranty
4. 2-3/4 inch (70mm) backset, or 2 3/8 inch backset as needed
5. 1/2 inch (14mm) throw latchbolt
6. Provide locksets with 7-pin core.
7. Functions and design as indicated in the hardware groups

D. Exit Devices shall:

1. Tested and approved by BHMA for ANSI 156.3, Grade 1
2. Provide 9001-Quality Management and 14001-Environmental Management.
3. Furnish UL or recognized independent laboratory certified mechanical operational testing to 9 million cycles minimum.
4. Provide a deadlocking latchbolt
5. Non-fire rated exit devices shall have cylinder dogging.
6. Touchpad shall be "T" style
7. Exposed components shall be of architectural metals and finishes.
8. Lever design shall match lockset lever design
9. Provide strikes as required by application.
10. Fire exit devices to be listed for UL10C
11. UL listed for Accident Hazard
12. Shall consist of a cross bar or push pad, the actuating portion of which extends across, shall not be less than one half the width of the door leaf.
13. Aluminum vertical rod assemblies are acceptable only when provide with the manufacturers optional top and bottom stainless steel rod guard protectors.

E. Cylinders:

1. Provide the necessary cylinder housings, collars, rings & springs as recommended by the manufacturer for proper installation.
2. Provide the proper cylinder cams or tail piece as required to operate all locksets and other keyed hardware items listed in the hardware sets.
3. Coordinate and provide as required for related sections.

F. Door Closers shall:

1. Tested and approved by BHMA for ANSI 156.4, Grade 1
2. UL10C certified
3. Provide 9001-Quality Management and 14001-Environmental Management.
4. Closer shall have extra-duty arms and knuckles
5. Conform to ANSI 117.1
6. Maximum 2 7/16 inch case projection with non-ferrous cover
7. Separate adjusting valves for closing and latching speed, and backcheck
8. Provide adapter plates, shim spacers and blade stop spacers as required by frame and door conditions
9. Full rack and pinion type closer with 1½" minimum bore
10. Mount closers on non-public side of door, unless otherwise noted in specification
11. Closers shall be non-handed, non-sized and multi-sized.

G. Kickplates: Provide with four beveled edges ANSI J102, 10 inches high by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.

H. Silencers: Furnish silencers on all interior frames, 3 for single doors, 2 for pairs. Omit where any type of seals occur.

2.3 FINISH

- A. Designations used in Schedule of Finish Hardware - 3.5, and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 including coordination with traditional U.S. finishes shown by certain manufacturers for their products
- B. Powder coat door closers to match other hardware, unless otherwise noted.
- C. Aluminum items shall be finished to match predominant adjacent material. Seals to coordinate with frame color.

2.4 KEYS AND KEYING

- A. Provide keyed brass construction cores and keys during the construction period. Construction control and operating keys and core shall not be part of the Owner's permanent keying system or furnished in the same keyway (or key section) as the Owner's permanent keying system. Permanent cores and keys (prepared according to the accepted keying schedule) will be furnished to the Owner.
- B. Cylinders, removable and interchangeable core system: Best Standard 7-pin.
- C. Permanent keys and cores: Stamped with the applicable key mark for identification. These visual key control marks or codes will not include the actual key cuts. Permanent keys will also be stamped "Do Not Duplicate."
- D. Transmit Grand Masterkeys, Masterkeys and other Security keys to Owner by Registered Mail, return receipt requested.
- E. Furnish keys in the following quantities:
 - 1. 1 each Grand Masterkeys
 - 2. 4 each Masterkeys
 - 3. 2 each Change keys each keyed core
 - 4. 15 each Construction masterkeys
 - 5. 1 each Control keys
- F. The Owner, or the Owner's agent, will install permanent cores and return the construction cores to the Hardware Supplier. Construction cores and keys remain the property of the Hardware Supplier.
- G. Keying Schedule: Arrange for a keying meeting, with Resident Engineer Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying complies with project requirements. Furnish 3 typed copies of keying schedule to Resident Engineer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of conditions: Examine doors, frames, related items and conditions under which Work is to be performed and identify conditions detrimental to proper and or timely completion.
 - 1. Do not proceed until unsatisfactory conditions have been corrected.

3.2 HARDWARE LOCATIONS

- A. Mount hardware units at heights indicated in the following publications except as specifically indicated or required to comply with the governing regulations.
 - 1. Recommended Locations for Builder's Hardware for Standard Steel Doors and Frames, by the Door and Hardware Institute (DHI).
 - 2. Recommended locations for Architectural Hardware for flush wood doors (DHI).
 - 3. WDMA Industry Standard I.S.-1A-04, Industry Standard for Architectural wood flush doors.

3.3 INSTALLATION

- A. Install each hardware item per manufacturer's instructions and recommendations. Do not install surface mounted items until finishes have been completed on the substrate. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- B. Conform to local governing agency security ordinance.
- C. Install conforming to ICC/ANSI A117.1 Accessible and Usable Building and Facilities.
 - 1. Adjust door closer sweep periods so that from the open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the landing side of the door.
- D. Installed hardware using the manufacturers fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.

3.4 FIELD QUALITY CONTROL AND FINAL ADJUSTMENT

- A. Contractor/Installers, Field Services: After installation is complete, contractor shall inspect the completed door openings on site to verify installation of hardware is complete and properly adjusted, in accordance with both the Contract Documents and final shop drawings.
 - 1. Check and adjust closers to ensure proper operation.

2. Check latchset, lockset, and exit devices are properly installed and adjusted to ensure proper operation.
 - a. Verify levers are free from binding.
 - b. Ensure latchbolts and dead bolts are engaged into strike and hardware is functioning.
3. Report findings, in writing, to Resident Engineer indicating that all hardware is installed and functioning properly. Include recommendations outlining corrective actions for improperly functioning hardware if required.

3.5 SCHEDULE OF FINISH HARDWARE

Manufacturer List

<u>Code</u>	<u>Name</u>
AB	ABH Manufacturing Inc.
BE	Best Access Systems
DJ	Don-Jo
NA	National Guard
NO	Norton
PR	Precision
RS	Reese Enterprises Inc.
ST	Stanley
TR	Trimco

Option List

<u>Code</u>	<u>Description</u>
CD	CYLINDER DOGGING
FL	Fire Exit Hardware
EBC	ENHANCED BACK CHECK
R704	STRAIGHT CYLINDER RING - 1/4"
2019S	SPACER BLOCK
10-24 MSA	10-24 MS & LEAD/ANCHORS
SEX BOLTS	SEX BOLTS
10-24 MS/LA	10-24 MACHINE SCREW/LEAD ANCHOR

Finish List

<u>Code</u>	<u>Description</u>
DB	Dull Bronze
S5	Sprayed to Match 613
613	Oxidized Satin Bronze, Oil Rubbed
628	Satin Aluminum, Clear Anodized
630	Satin Stainless Steel
690	Statuary Bronze, Painted
695	Dark Bronze Painted
US10A	Antique Bronze Lacquered (Steel Hinges)
US10B	Dull Bronze, Oxidized and Oil Rubbed

Hardware Sets

SET #1

2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
1 Astragal	195D (one set)		RS

NOTE: Reuse all other existing door hardware.

SET #2

2 Continuous Hinge	661 UL	DB	ST
1 Exit Device	2802 CD	613	PR
1 Exit Device	2803CD X CO3	613	PR
1 Rim Cylinder	1E-72 PATD R704	613	BE
2 Mortise Cylinder	1E-74 PATD R704	613	BE
2 Offset Door Pull	1158	613	DJ
2 Closer	PR7500 2019S EBC	690	NO
2 Overhead Stop	1023 SEX BOLTS	US10B	AB
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
1 Head Seal	759D		RS
2 Jamb Seals	859D		RS
1 Astragal	195D (one set)		RS
2 Door Bottom	DB596D		RS
1 Threshold	S483DV 10-24 MSA		RS

SET #3

6 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10B	ST
1 Removable Mullion	KR822	695	PR
1 Exit Device	2101 X 4901	613	PR
1 Exit Device	2108 X V4908D	613	PR
2 Rim Cylinder	1E-72 PATD R704	613	BE
2 Closer	PR7500 2019S EBC	690	NO
2 Overhead Stop	1023 SEX BOLTS	US10B	AB
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
1 Head Seal	759D		RS
2 Jamb Seals	859D		RS
1 Astragal	195D (one set)		RS
2 Door Bottom	DB596D		RS
1 Threshold	S483DV 10-24 MSA		RS

SET #4

3 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10B	ST
1 Exit Device	2108 X V4908D	613	PR
1 Rim Cylinder	1E-72 PATD R704	613	BE
1 Closer	PR7500 2019S EBC	690	NO
1 Overhead Stop	1023 SEX BOLTS	US10B	AB
1 Kick Plate	90 10" X 2" LDW X B4E X CSK	613	DJ
1 Head Seal	759D		RS
2 Jamb Seals	859D		RS
1 Door Bottom	DB596D		RS
1 Threshold	S483DV 10-24 MSA		RS

SET #100

8 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10B	ST
2 Fire Exit Device	FL 2808 X V4908D X LBR X FB277	613	PR
2 Rim Cylinder	1E-72 PATD R704	613	BE
2 Closer	PR7500 2019S EBC	690	NO
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
2 Wall Bumper	1413	613	DJ
1 Smoke Seal	934D		RS
2 Astragal Seals	964D		RS
1 Threshold	S483DV 10-24 MSA		RS

SET #101

NOTE: Existing opening-Remove kick down door holders.

SET #102

NOTE: Existing openings-Reuse all existing door hardware.

SET #103

6 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10B	ST
2 Fire Exit Device	FL 2808 X V4908D X LBR X FB277	613	PR
2 Rim Cylinder	1E-72 PATD R704	613	BE
2 Closer	PR7500	690	NO
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
2 Wall Bumper	1413	613	DJ
1 Smoke Seal	137 SDKB		NA
1 Astragal	114 SDKB		NA
2 Door Sweep	200 SDKB		NA
1 Saddle Threshold	425 DKB 10-24 MS/LA		NA

SET #104

6 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10B	ST
2 Fire Exit Device	FL 2808 X V4908D X LBR X FB277	613	PR
2 Rim Cylinder	1E-72 PATD R704	613	BE
2 Closer	PR7500	690	NO
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
2 Wall Bumper	1413	613	DJ
1 Smoke Seal	934D		RS
2 Astragal Seals	964D		RS

SET #105

6 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10A	ST
2 Flush Bolt	1560	613	DJ
1 Dust Proof Strike	1570	613	DJ
1 Coordinator	2021	628	DJ
2 Mounting Bracket	2050 Series	628	DJ
1 Storage Lockset	45H-7D14H PATD	613	BE
2 Closer	PR7500	690	NO
2 Magnetic Holder	2100 Series	S5	AB
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ

1 Smoke Seal	137 SDKB		NA
1 Astragal	114 SDKB		NA
2 Door Sweep	200 SDKB		NA
1 Saddle Threshold	425 DKB 10-24 MS/LA		NA

SET #106

6 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10B	ST
2 Fire Exit Device	FL 2808 X V4908D X LBR X FB277	613	PR
2 Rim Cylinder	1E-72 PATD R704	613	BE
2 Closer	PR7500	690	NO
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
2 Wall Bumper	1413	613	DJ
1 Smoke Seal	934D		RS
2 Astragal Seals	964D		RS

SET #107

3 Hinges	FBB168 4 1/2 X 4 1/2	US10B	ST
1 Fire Exit Device	FL 2108 X V4908D	613	PR
1 Rim Cylinder	1E-72 PATD R704	613	BE
1 Closer	7500	690	NO
1 Kick Plate	90 10" X 2" LDW X B4E X CSK	613	DJ
1 Wall Bumper	1413	613	DJ
1 Smoke Seal	934D		RS

SET #108

3 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10A	ST
1 Fire Exit Device	FL 2108 X V4908D	613	PR
1 Rim Cylinder	1E-72 PATD R704	613	BE
1 Closer	PR7500	690	NO
1 Kick Plate	90 10" X 2" LDW X B4E X CSK	613	DJ
1 Wall Bumper	1413	613	DJ
1 Smoke Seal	934D		RS

SET #109

8 Hinges	FBB168 4 1/2 X 4 1/2 NRP	US10A	ST
1 Semi Auto Bolts	3810 X 3820	630	TR
1 Fire Bolt	3850	630	TR
1 Dust Proof Strike	1570	613	DJ
1 Fire Exit Device	FL 2808 X V4908D X LBR X FB277	613	PR
1 Rim Cylinder	1E-72 PATD R704	613	BE
1 Closer	PR7500	690	NO
1 Closer	7500	690	NO
2 Kick Plate	90 10" X 1" LDW X B4E X CSK	613	DJ
2 Wall Bumper	1413	613	DJ
1 Astragal	195D (one set)		RS
1 Smoke Seal	934D		RS

SET #110

3 Hinges	FBB179 4 1/2 X 4 1/2	US10B	ST
1 Storage Lockset	45H-7D14H PATD	613	BE

1 Closer	7500	690	NO
1 Kick Plate	90 10" X 2" LDW X B4E X CSK	613	DJ
1 Wall Bumper	1413	613	DJ
1 Smoke Seal	137 SDKB		NA
1 Door Sweep	200 SDKB		NA
1 Saddle Threshold	425 DKB 10-24 MS/LA		NA

SET #111

3 Hinges	FBB168 4 1/2 X 4 1/2	US10B	ST
1 Passage Set	45H-0N14H	613	BE
1 Closer	7500	690	NO
1 Kick Plate	Mount Below Door Louver (Size to fit)	613	DJ
1 Mop Plate	90 4" X 1" LDW X B4E XCSK	613	DJ
1 Wall Bumper	1413	613	DJ
1 Smoke Seal	934D		RS

SET #112

2 Exit Device Trim	V4908D	613	PR
2 Rim Cylinder	1E-72 PATD R704	613	BE

NOTE: Reuse all other existing door hardware. Patch and refinish door to accommodate new panic trim.

SET #113

1 Kick Plate	90 10" X 2" LDW X B4E X CSK	613	DJ
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NOTE: Existing gate-reuse all other existing hardware.

END OF SECTION 087100

SECTION 093013 - CERAMIC TILE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Ceramic mosaic tile.
 - 2. Glazed wall tile.
- B. Related Sections include the following:
 - 1. Division 7 Section "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.

1.2 DEFINITIONS

- A. Module Size: Actual tile size (minor facial dimension as measured per ASTM C 499) plus joint width indicated.
- B. Facial Dimension: Nominal tile size as defined in ANSI A137.1.

1.3 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:
 - 1. Level Surfaces: Minimum 0.6.

1.4 SUBMITTALS

- A. Product Data: For each type of tile, mortar, grout, and other products specified.
- B. Grout Samples for Initial Selection: Manufacturer's color charts consisting of actual sections of grout showing the full range of colors available for each type of grout indicated.
- C. Samples for Verification: Of each item listed below, prepared on Samples of size and construction indicated. Where products involve normal color and texture variations, include Sample sets showing the full range of variations expected.
 - 1. Each type and composition of tile and for each color and texture required, at least 12 inches square, mounted on braced cementitious backer units, and with grouted joints using product complying with specified requirements and approved for completed work in color or colors selected by Architect.
 - 2. Full-size units of each type of trim and accessory for each color required.
- D. Product Certificates: Signed by manufacturers certifying that the products furnished comply with requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement of ANSI A137.1 for labeling sealed tile packages.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is completed and ambient temperature and humidity conditions are being maintained to comply with referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide products indicated in the ceramic tile installation schedules at the end of this Section.

2.2 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.
 - 1. Provide tile complying with Standard Grade requirements, unless otherwise indicated.
 - 2. For facial dimensions of tile, comply with requirements relating to tile sizes specified in Part 1 "Definitions" Article.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting Materials" and "Grouting Materials" articles.
- C. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements:
 - 1. Match Architect's samples.
 - 2. Match colors, textures, and patterns indicated by referencing manufacturer's standard designations for these characteristics.
 - 3. Provide tile trim and accessories that match color and finish of adjoining flat tile.
- D. Factory Blending: For tile exhibiting color variations within the ranges selected during Sample submittals, blend tile in the factory and package so tile units taken from one package show the same range in colors as those taken from other packages and match approved Samples.

- E. Mounting: Where factory-mounted tile is required, provide back- or edge-mounted tile assemblies as standard with manufacturer, unless another mounting method is indicated.

2.3 TILE PRODUCTS

- A. Unglazed Ceramic Mosaic Tile: Provide factory-mounted flat tile complying with the following requirements:
 - 1. Composition: Porcelain.
 - 2. Composition: Porcelain with abrasive admixture.
 - 3. Module Size: 2 by 2 inches.
 - 4. Nominal Thickness: 1/4 inch.
 - 5. Face: Plain with cushion edges.
- B. Glazed Wall Tile: Provide flat tile complying with the following requirements:
 - 1. Module Size: 4-1/4 by 4-1/4 inches.
 - 2. Thickness: 5/16 inch.
 - 3. Face: Plain with modified square edges or cushion edges.
- C. Trim Units: Provide tile trim units to match characteristics of adjoining flat tile and to comply with the following requirements:
 - 1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.
 - 2. Shapes: As follows, selected from manufacturer's standard shapes:
 - a. Internal Corners: Field-buttet square corners, except with coved base and cap angle pieces designed to member with stretcher shapes.
 - b. Exposed edges of tile installation: Bullnose edge.

2.4 SETTING MATERIALS

- A. Portland Cement Mortar Installation Materials: Provide materials complying with ANSI A108.1A and as specified below:
 - 1. Cleavage Membrane: Asphalt felt, ASTM D 226, Type I (No. 15), or polyethylene sheeting ASTM D 4397, 4.0 mils thick.
- B. Latex-Portland Cement Mortar: ANSI A118.4.

2.5 GROUTING MATERIALS

- A. Latex-Portland Cement Grout: ANSI A118.6 for materials described in Section H-2.4.

2.6 ELASTOMERIC SEALANTS

- A. General: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer and characteristics indicated that comply with applicable requirements of Division 7 Section "Joint Sealants."
- B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints, unless otherwise indicated.

2.7 MISCELLANEOUS MATERIALS

- A. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
 - 1. Provide Material Safety Data Sheets (MSDS) to Owner for cleaners.
- B. Grout Sealer: Anti-microbial, sodium silicate based grout sealant by one of the following:
 - 1. DuPont
 - 2. Ashland Chemical Co.
 - 3. Porter Paints
- C. Flooring Transition Strip at Doorway: Schluter RENO-U or equal, Aluminum Satin Brass Anodized.

2.8 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free from oil, waxy films, and curing compounds; and within flatness tolerances required by referenced ANSI A108 series of tile installation standards for installations indicated.
 - 2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed before installing tile.
 - 3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust latter in consultation with Resident Engineer.
- B. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove coatings, including curing compounds, and other substances that contain soap, wax, oil, or silicone and are incompatible with tile-setting materials by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.
- B. Blending: For tile exhibiting color variations within the ranges selected during Sample submittals, verify that tile has been blended in the factory and packaged so tile units taken from one package show the same range in colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 series of tile installation standards in "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.
- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. Extend tile work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

- E. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are the same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.
 - 1. For tile mounted in sheets, make joints between tile sheets the same width as joints within tile sheets so joints between sheets are not apparent in finished work.
- F. Lay out tile wainscots to next full tile beyond dimensions indicated.
- G. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
 - 1. Locate joints in tile surfaces directly above joints in concrete substrates.
 - 2. Prepare joints and apply sealants to comply with requirements of Division 7 Section "Joint Sealants."
- H. Grout tile to comply with the requirements of the following tile installation standards:
 - 1. For ceramic tile grouts (sand-portland cement, dry-set, commercial portland cement, and latex-portland cement grouts), comply with ANSI A108.10.

3.4 FLOOR TILE INSTALLATION

- A. General: Install tile to comply with requirements in the Ceramic Tile Floor Installation Schedule, including those referencing TCA installation methods and ANSI A108 series of tile installation standards.
- B. Joint Widths: Install tile on floors with the following joint widths:
 - 1. Ceramic Mosaic Tile: 1/16 inch.
- C. Back Buttering: For installations indicated, obtain 100 percent mortar coverage by complying with applicable special requirements for back buttering of tile in referenced ANSI A108 series of tile installation standards:
 - 1. Exterior tile floors.
 - 2. Tile floors in wet areas, including showers, tub enclosures, laundries, and swimming pools.
 - 3. Tile floors composed of tiles 8 by 8 inches or larger.
 - 4. Tile floors composed of rib-backed tiles.

3.5 WALL TILE INSTALLATION

- A. Install types of tile designated for wall installations to comply with requirements in the Ceramic Tile Wall Installation Schedule, including those referencing TCA installation methods and ANSI setting-bed standards.
- B. Joint Widths: Install tile on walls with the following joint widths:
 - 1. Wall Tile: 1/16 inch.
- C. Back Buttering: For installations indicated, obtain 100 percent mortar coverage by complying with applicable special requirements for back buttering of tile in referenced ANSI A108 series of tile installation standards:

3.6 CLEANING AND PROTECTING

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 - 1. Remove latex-portland cement grout residue from tile as soon as possible.
 - 2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
- B. Grout Sealer: Apply grout sealer to all grout in accordance with manufacturer's recommendations.
- C. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work.
- D. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure tile is without damage or deterioration at the time of Substantial Completion.
 - 1. When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
 - 2. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.
- E. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

3.7 CERAMIC TILE FLOOR INSTALLATION SCHEDULE

- A. Ceramic Tile Floor Installation: Where interior floor installations are indicated, comply with the following:
1. Tile Type: Unglazed ceramic mosaic tile. Provide Daltile as called out on plans equal product by one of the following manufacturers:
 - a. American Olean.
 - b. Intercramic.
 2. Installation Method: TCA F147 (thin set with uncoupling membrane, over plywood subfloor).
 3. Setting Bed and Grout: ANSI A108.1A with the following grout:
 - a. Latex-portland cement mortar.
 - b. Latex-portland cement grout.

3.8 CERAMIC TILE WALL INSTALLATION SCHEDULE

- A. Ceramic Tile Wall Installation: Where wall installations are indicated, comply with the following:
1. Tile Type: Glazed wall tile. Provide Daltile as called out on plans or an equal product from one of the following manufacturers:
 - a. American Olean.
 - b. Interceramic.
 2. Installation Method: TCA W201 (Latex-Portland Cement Mortar over gypsum board).
 - a. Setting Bed and Grout: ANSI A108.1B with the following mortar and grout:
 - b. Latex-portland cement mortar.
 - c. Unsanded latex-portland cement grout.

END OF SECTION 093013

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Gypsum board.
 - 2. Steel.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of topcoat product indicated requiring color selection.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

1.3 QUALITY ASSURANCE

- A. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Resident Engineer will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft.
 - b. Other Items: Resident Engineer will designate items or areas required.
 - 2. Apply benchmark samples after permanent lighting and other environmental services have been activated.
 - 3. Final approval of color selections will be based on benchmark samples.
 - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.5 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. Colors: Match Architect's samples.

2.2 MANUFACTURERS (or approved equal)

- A. Manufacturers: Subject to compliance with requirements, provide products from the following:
 - 1. Dunn-Edwards Corporation.
 - 2. Frazee Paint.
 - 3. ICI Paints.
 - 4. Sherwin-Williams Company (The).
 - 5. Vista Paint.

2.3 PRIMERS/SEALERS

- A. Interior Primer/Sealer for Gypsum Board:
 - 1. Dunn Edwards W101 Vinylastic
 - 2. Frazee 061 Aquaseal
 - 3. ICI 1000 Primer Sealer
 - 4. SW Prep Rite Primer B28W200
 - 5. Vista 1100 Hi Build Sealer
 - 6. Or approved equal

- B. Galvanized and Non-Ferrous Metal Waterborne Primer (galvanized metal shall be washed with manufacturer's recommended solution and rinsed before priming):
 - 1. Dunn Edwards W715 Ultragrip
 - 2. Frazee 561 Acrylic Metal Primer
 - 3. ICI Devflex 4020
 - 4. SW B66W1 DTM Acrylic Primer
 - 5. Vista 4500 Galva Poxy
 - 6. Or approved equal

2.4 INTERIOR PAINT TOPCOATS

- A. Interior Acrylic Latex Semigloss
 - 1. Dunn Edwards W901V Permasheen
 - 2. Frazee 124 Mirroglide Semigloss
 - 3. ICI Dulux Ultra 1407
 - 4. SW ProClassic B31 Series
 - 5. Vista 8400 Carefree
 - 6. Or approved equal

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.

- B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

- C. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Do not paint mechanical and electrical work. Do not paint exposed ducts, pipes, conduits or cable trays.
- F. Do not paint items with factory finishes except items that have been factory-primed.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Resident Engineer, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

- A. Gypsum Board Substrates:
 - 1. Latex System:
 - a. Prime Coat: Interior latex primer/sealer.
 - b. Intermediate Coat: Interior latex matching topcoat.
 - c. Topcoat: Interior latex, semigloss.
- B. Galvanized and Non Ferrous Metal Substrates where indicated to be painted:
 - 1. Latex System:
 - a. Prime Coat: Galvanized-metal primer.
 - b. Intermediate Coat: Interior latex matching topcoat.
 - c. Topcoat: Interior latex (semigloss).

END OF SECTION 099123

SECTION 099600 - HIGH-PERFORMANCE COATINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and application of high-performance coating systems on the following substrates:
 - 1. Interior Substrates:
 - a. Concrete, horizontal floor surfaces in Rest Rooms.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated. Include preparation requirements and application instructions.
- B. Samples for Verification: For each type of coating system and in each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- C. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. VOC content.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

PART 2 - PRODUCTS

2.1 MANUFACTURERS (or approved equal)

- A. Manufacturers: Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products by Monopole, Inc., or comparable products by one of the following:
 - 1. Rainguard.

2. America Polymers.
- B. Products: Subject to compliance with requirements, provide products equal to those listed in other Part 3 coating schedule for the paint category indicated.

2.2 HIGH-PERFORMANCE COATINGS, GENERAL

- A. Material Compatibility:
1. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a coating system, provide products recommended in writing by manufacturers of topcoat for use in coating system and on substrate indicated.
 3. Provide products of same manufacturer for each coat in a coating system.
- B. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior coatings applied at project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
1. Prime Coatings: 90 g/L.
 2. Intermediate and Top Coatings: 0 g/L.
- C. Low-Emitting Materials: Interior coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- D. Sheen: As indicated, or if not indicated as selected by Resident Engineer from manufacturer's full range.
- E. Colors: As indicated in color schedule, or if not indicated as selected by Resident Engineer from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Concrete: 12 percent.
- B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

- C. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

3.3 APPLICATION, GENERAL

- A. Apply high-performance coatings according to manufacturer's written instructions and recommendations.
 - 1. Use applicators and techniques suited for coating and substrate indicated.
 - 2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.
- D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 CONCRETE FLOOR APPLICATION

- A. Prepare concrete surfaces in accordance with manufacturer's instructions, SSPC-SP 13/NACE 6 – Level 3 Commercial Blast Cleaning, and ICRI 03732
- B. Apply per manufacturer's instructions using recommended applicator devices.
- C. Apply prime coat using a short nap foam roller at coverage rates as follow:
 - 1. Smooth surfaces: 275-300 sq.ft./gallon.
 - 2. Rough surfaces: 175-225 sq.ft./gallon.
- D. Allow prime coat to cure for 4-6 hours; then apply intermediate coat at approximate spread rate of 230 sq.ft./gallon.
- E. Broadcast sand into wet intermediate coat at approximate rate of 8-10 lbs per 100 sq.ft.
- F. Apply topcoat at approximate spread rate of 175 sq.ft./gallon.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Resident Engineer, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.6 INTERIOR HIGH-PERFORMANCE COATING SCHEDULE

- A. Concrete Substrates, Horizontal Floor Surfaces.
 - 1. Prime Coat: Monochem 21
 - 2. Intermediate Coat: Permashield 200
 - 3. While still wet, broadcast across floor surface 30 mesh silica sand.
 - 4. Topcoat: Permashield 200

END OF SECTION 099600

SECTION 101400 - SIGNS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following types of signs:
 - 1. Panel signs.

1.2 SUBMITTALS

- A. General: Submit the following according to the Conditions of the Contract.
- B. Product data for each type of sign specified, including details of construction relative to materials, dimensions of individual components, profiles, and finishes.
- C. Shop drawings showing fabrication and erection of signs. Include plans, elevations, and large-scale sections of typical members and other components. Show anchors, grounds, layout, reinforcement, accessories, and installation details.
 - 1. Provide message list for each sign required, including large-scale details of wording and lettering layout.
 - 2. Furnish full-size rubbings for metal plaques.
- D. Samples: Provide the following samples of each sign component for initial selection of color, pattern and surface texture as required and for verification of compliance with requirements indicated.
 - 1. Samples for selection of color, pattern, and texture:
 - a. Cast Acrylic Sheet: Manufacturer's color charts consisting of actual sections of material including the full range of colors available for each material required.

1.3 QUALITY ASSURANCE

- A. Single-Source Responsibility: For each separate sign type required, obtain signs from one source of a single manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS (or approved equal)

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Manufacturers of Panel Signs:
 - a. Andco Industries Corp.
 - b. ASI Sign Systems, Inc.
 - c. Best Manufacturing Company.
 - d. Mohawk Sign Systems.
 - e. Poblocki & Sons, Inc.
 - f. Spanjer Brothers, Inc.
 - g. The Supersine Company.
 - h. Vomar Products, Inc.

2.2 MATERIALS

- A. Cast Acrylic Sheet: Provide cast (not extruded or continuous cast) methyl methacrylate monomer plastic sheet, in sizes and thicknesses indicated, with a minimum flexural strength of 16,000 psi when tested according to ASTM D 790, with a minimum allowable continuous service temperature of 176 deg F (80 deg C), and of the following general types:
 - 1. Opaque Sheet: Provide colored opaque acrylic sheet in colors and finishes as selected from the manufacturer's standards.
- B. Fasteners: Use concealed fasteners fabricated from metals that are not corrosive to the sign material and mounting surface.
- C. Anchors and Inserts: Use nonferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.
- D. Colored Coatings for Acrylic Plastic Sheet: Use colored coatings, including inks and paints for copy and background colors, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are nonfading for the application intended.

2.3 PANEL SIGNS

- A. Panel Signs: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.
 - 1. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally.

- B. Unframed Panel Signs: Fabricate signs with edges mechanically and smoothly finished to conform with the following requirements:
 - 1. Edge Condition: Beveled.
 - 2. Corner Condition: Corners rounded to 3/8 inch radius.
- C. Graphic Content and Style: Provide sign copy that complies with the requirements indicated for size, style, spacing, content, position, material, finishes, and colors of letters, numbers, and other graphic devices.
- D. Raised Copy: Machine-cut copy characters from matte-finished opaque acrylic sheet and chemically weld onto the acrylic sheet forming sign panel face. Produce precisely formed characters with square cut edges free from burrs and cut marks.
 - 1. Panel Material: Matte-finished opaque acrylic sheet.
 - 2. Raised Copy Thickness: Not less than 1/32 inch.
 - 3. Braille Symbols: Contracted Grade 2 Braille shall be used wherever Braille symbols are required. Dots shall be 1/10 inch on centers in each cell with 2/10 inch space between cells. Dots shall be raised a minimum of 1/40 inch above the background.

2.4 FINISHES

- A. Colors and Surface Textures: For exposed sign material that requires selection of materials with integral or applied colors, surface textures or other characteristics related to appearance, provide color matches indicated, or if not indicated, as selected by the Architect from the manufacturer's standards.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Locate sign units and accessories where indicated, using mounting methods of the type described and in compliance with the manufacturer's instructions.
 - 1. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.
- B. Wall-Mounted Panel Signs: Attach panel signs to wall surfaces using both methods indicated below:
 - 1. Mechanical and Adhesive Mounting: Use liquid silicone adhesive recommended by the sign manufacturer to attach sign units. Provide predrilled and countersunk holes. Attach the panel signs with fasteners and anchors suitable for secure attachment to the substrate.

3.2 CLEANING AND PROTECTION

- A. After installation, clean soiled sign surfaces according to the manufacturer's instructions. Protect units from damage until acceptance by the Resident Engineer.

END OF SECTION 101400

SECTION 102113 - TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Solid-polymer toilet compartments configured as toilet enclosures and urinal screens.
- B. Related Sections:
 - 1. Section 102800 "Toilet Accessories" for toilet tissue dispensers, grab bars, and similar accessories.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Show locations of cutouts for compartment-mounted toilet accessories.
 - 2. Show locations of reinforcements for compartment-mounted grab bars.
 - 3. Show locations of centerlines of toilet fixtures.
- C. Samples for Initial Selection: For each type of unit indicated. Include Samples of hardware and accessories involving material and color selection.
- D. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:
 - 1. Each type of material, color, and finish required for units, prepared on 6-inch-square Samples of same thickness and material indicated for Work.
 - 2. Each type of hardware and accessory.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of toilet compartment, from manufacturer.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Comply with requirements in GSA's CID-A-A-60003, "Partitions, Toilets, Complete."
- B. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities" for toilet compartments designated as accessible.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Castings: ASTM B 26/B 26M.
- B. Aluminum Extrusions: ASTM B 221.
- C. Stainless-Steel Castings: ASTM A 743/A 743M.
- D. Adhesives: Manufacturer's standard product that complies with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.2 SOLID-POLYMER UNITS

- A. Manufacturers (or approved equal): Subject to compliance with requirements, provide products by one of the following:
 - 1. Accurate Partitions Corporation.
 - 2. Ampco, Inc.
 - 3. Bradley Corporation; Mills Partitions.
 - 4. Comtec Industries/Capitol Partitions.
 - 5. Hadrian Manufacturing Inc.
 - 6. Metpar Corp.
 - 7. Santana Products, Inc.
 - 8. Weis-Robart Partitions, Inc.
- B. Toilet-Enclosure Style: Overhead braced, Floor anchored.
- C. Urinal-Screen Style: Wall hung.

- D. Door, Panel, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch thick, seamless, with eased edges and with homogenous color and pattern throughout thickness of material.
 - 1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
 - 2. Heat-Sink Strip: Manufacturer's standard continuous, extruded-aluminum or stainless-steel strip fastened to exposed bottom edges of solid-polymer components to prevent burning.
 - 3. Color and Pattern: One color and pattern in each room as selected by Architect from manufacturer's full range.
- E. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.
- F. Brackets (Fittings):
 - 1. Stirrup Type: Ear or U-brackets, stainless steel.
 - 2. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.
- G. Overhead Cross Bracing for Ceiling-Hung Units: As recommended by manufacturer and fabricated from solid polymer.

2.3 ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard design, heavy-duty operating hardware and accessories.
 - 1. Material: Stainless steel.
 - 2. Hinges: Manufacturer's standard paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees.
 - 3. Latch and Keeper: Manufacturer's standard recessed latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
 - 4. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors.
 - 5. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.
- B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.
- C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or chrome-plated steel or brass, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless steel, hot-dip galvanized steel, or other rust-resistant, protective-coated steel.

2.4 FABRICATION

- A. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
- B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- C. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment at [tops and] bottoms of posts. Provide shoes and sleeves (caps) at posts to conceal anchorage.
- D. Door Size and Swings: Unless otherwise indicated, provide 24-inch- wide, in-swinging doors for standard toilet compartments and 36-inch- wide, out-swinging doors with a minimum 32-inch- wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: 1/2 inch.
 - b. Panels and Walls: 1 inch.
 - 2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel.
 - a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.
- B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels, and adjust so tops of doors are parallel with overhead brace when doors are in closed position.
- C. Floor-Anchored Units: Set pilasters with anchors penetrating not less than 2 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.

- D. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.2 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

END OF SECTION 102113

SECTION 102800 – TOILET ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include the following:
 - 1. Construction details and dimensions.
 - 2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Material and finish descriptions.
 - 4. Features that will be included for Project.
 - 5. Manufacturer's warranty.
- B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated.
 - 2. Identify products using designations indicated.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.

1.5 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.
- B. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch minimum nominal thickness.
- C. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating.
- D. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- E. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- F. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 - 1. A & J Washroom Accessories, Inc.
 - 2. American Specialties, Inc.
 - 3. Bobrick Washroom Equipment, Inc.
 - 4. Bradley Corporation.
 - 5. GAMCO Specialty Accessories; a division of Bobrick Washroom Equipment, Inc.
 - 6. Tubular Specialties Manufacturing, Inc.
 - 7. Or approved equal
- C. Toilet Tissue (Roll) Dispenser :
 - 1. Basis-of-Design Product: ASI 0264-1A.
 - 2. Description: Double-roll theft resistant dispenser.
 - 3. Mounting: Surface mounted.
 - 4. Operation: Free-delivery spindle.
 - 5. Capacity: Designed for 4-1/2- or 5-inch- diameter tissue rolls.
 - 6. Material and Finish: Cast Aluminum with thermoplastic spindle.

D. Sanitary-Napkin Disposal Unit:

1. Basis-of-Design Product: Bobrick 254.
2. Mounting: Surface mounted.
3. Door or Cover: Self-closing, disposal-opening cover and hinged face panel with tumbler lockset.
4. Receptacle: Removable.
5. Material and Finish: Stainless steel, No. 4 finish (satin).

E. Liquid-Soap Dispenser:

1. Basis-of-Design Product: Bobrick 2111.
2. Description: Designed for dispensing soap in liquid or lotion form.
3. Mounting: Vertically oriented, surface mounted.
4. Capacity: 40-fl. Oz.
5. Lockset: Tumbler type.

F. Grab Bar:

1. Basis-of-Design Product: Bobrick 6861.
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
4. Outside Diameter: 1-1/2 inches.
5. Configuration and Length: 36" long behind toilet, 48" long beside toilet.

G. Seat-Cover Dispenser:

1. Basis-of-Design Product: Bobrick 221.
2. Mounting: Surface mounted.
3. Minimum Capacity: 250 seat covers.
4. Exposed Material and Finish: Stainless steel, No. 4 finish (satin).
5. Lockset: Tumbler type.

H. Hand Air Dryer:

1. Basis-of-Design Product: Dyson Airblade AB04.
2. Mounting: Surface.
3. Operation: Touch-free infra-red activation.
4. Furnish without heating element.
5. Cover Material and Finish: ABS casing with antimicrobial additive.
6. Electrical Requirements: 110-120 V AC, 1400 W.

2.3 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Resident Engineer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 102800

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 SUBMITTALS

- A. Submit a minimum of six copies of shop drawings for all products. All submittal sheets shall be clearly marked or highlighted showing conformance to specifications and schedule. All submittals shall be crossed referenced to the requirements of each specification paragraph pertaining to the item being submitted. All requirements must be shown on manufacturer's literature. Manufacturer's representative's letterhead, or superimposed notations, are not acceptable. This requirement pertains to all sections of Division 22. No exceptions. Submittals not so marked will be subject to rejection.

1.2 CODES AND STANDARDS

- A. All work and materials shall be in full accordance with the latest rules and regulations of the State Fire Marshal, the Safety Orders of the Division of Industrial Safety, the California Building Code, the California Mechanical Code, the California Plumbing Code the California Electrical Code, Local Building Codes, and other applicable codes, laws or regulations of bodies lawfully empowered and having jurisdiction over this project. Nothing in the plans or specifications is to be construed to permit work not conforming to these codes.

1.3 SEISMIC ANCHORAGE AND BRACING

- A. All equipment and piping shall be anchored or braced in accordance with the California Building Code. The contractor is responsible for providing anchorage or bracing for all equipment regardless of whether detailed or shown on the plans. All equipment and ductwork supports not detailed as shown on the plans, requires approval of a registered structural engineer.
- B. All piping shall be supported or braced in accordance with the SHL-A "Seismic Restraint Manual: Guideline for Mechanical Systems" latest approved edition, Superstrut "Seismic Restraint System", Unistrut Corp. "Seismic Bracing For Ductwork, Conduit, and Cable Tray Supports", or B-Line "Seismic Restraints." If the pipe size exceeds the size included in these manuals, custom designed supports are required. All custom supports require the approval of a registered Structural Engineer. All shop drawings and calculations shall be submitted prior to fabrication.
- C. All flexibly mounted equipment shall be provided with seismic vibration isolation devices designed in accordance with the California Building Code. All anchors and equipment connections shall be submitted. All seismic vibration isolation devices shall be submitted with structural calculations signed by a Registered Structural Engineer in the State of California.

1.4 PERMITS

- A. The Contractor shall obtain all permits, patent rights, and licenses that are required for the performance of his work by all laws, ordinances, rules and regulations or orders of any officer and/or body, shall give all notices necessary in connection therewith, and pay all fees relating thereto and all costs and expenses incurred on account thereof. No work shall be covered before inspection by the Resident Engineer.
- B. Contractor shall apply for and pay for all cost for the installation of water and gas meters, and for connection to gas, water, and sewer mains.

1.5 CUTTING AND PATCHING

- A. Perform all cutting and fitting required for work of this section in rough construction of the building.
- B. All patching of finished construction of building shall be performed under the sections of specifications covering these materials.
- C. All cutting of concrete work by this Contractor shall be by core drilling or concrete saw. No cutting or coring shall be done without first obtaining the permission of the Resident Engineer.

1.6 GENERAL

- A. Unless otherwise specified herein, all equipment and fixtures shall be installed in accordance with the manufacturer's recommendations.
- B. Before submitting his bid, the Contractor for the work under this section shall carefully study all drawings, and shall make a careful examination of the premises. He shall definitely determine in advance, the methods of installing and connecting the apparatus, the means to be provided for getting any equipment into place, and shall make himself thoroughly familiar with all the requirements of the contract. After award of the contract, no subsequent allowances will be made to the Contractor due to his failure to comply with the above requirements and any other conditions affecting the installation and completion of all work.
- C. Workmanship: All labor shall be carefully skilled for this kind of work, thorough and first class in all respects and under the direction of a competent foreman.
- D. Special Note: Any work called for on plans shall be installed whether or not mentioned in these specifications.

1.7 VERIFICATION OF LEAD CONTENT IN PLUMBING PRODUCTS

- A. Comply with California Health and Safety Code 116875 (AB 1953-2006) Lead Content in Plumbing Products for valves and fittings. All valves 2" and smaller and all fittings 2" and smaller for installation in the domestic water system, whether serving a fixture providing domestic water for human consumption or serving a fixture providing domestic water to a fixture not normally considered as for use for human consumption shall be provided with valve and fittings that have been verified by an independent evaluation

service as meeting the requirements of the California Health and Safety Code 116875 (AB 1953-2006). When valves or fittings larger than 2” are required and verified products are available from the specified manufacturer(s), verified valves and fittings shall be submitted for approval and provided, as approved.

- B. Comply with California Health and Safety Code 116875 (AB 1953-2006) Lead Content in Plumbing Products for piping specialties installed in the domestic water system whether serving a fixture providing domestic water for human consumption or serving a fixture providing domestic water to a fixture not normally considered as for use for human consumption shall have been verified by an independent evaluation service as meeting the requirements of the California Health and Safety Code 116875 (AB 1953-2006). When piping specialty item larger than 2” is required, and a verified product is available from the specified manufacturer(s), the verified plumbing specialty item shall be submitted for approval and provided, as approved.

1.8 DAMAGE BY LEAKS

- A. This Contractor shall be responsible for damage to the grounds, walks, roads, buildings, piping systems, electrical systems and their equipment and contents, caused by leaks in the piping systems being installed or having been installed herein. He shall repair at his expense all damage so caused. All repair work shall be done as directed by the Resident Engineer.

1.9 EMERGENCY REPAIRS

- A. The Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding the Contractor's guarantee bond nor relieving the Contractor of his responsibilities.

1.10 EXPLANATION AND PRECEDENCE OF DRAWINGS

- A. For purposes of clearness and legibility, drawings are essentially diagrammatic, and, although size and location of equipment are drawn to scale wherever possible, Contractor shall make use of all data in all the contract documents and shall verify this information at building site.
- B. The drawings indicate required size and points of termination of pipes, and suggest proper routes to conform to structure, avoid obstructions and preserve clearances. However, it is not intended that drawings indicate all necessary offsets, and it shall be the work of the Contractor to make the installation in such a manner as to conform to structure, avoid obstructions, preserve headroom and keep openings and passageways clear, without further instructions or cost to the Owner.
- C. It is intended that all apparatus be located symmetrical with architectural elements. Refer to architectural details in completing the correlating work.
- D. The contractor shall be fully informed regarding any and all peculiarities and limitations of the spaces available for the installation of all work and materials furnished and installed under the contract. The contractor shall exercise due and particular caution to determine that all parts of his work are made quickly and easily accessible.

- E. The Contractor shall study all drawings and specifications to determine any conflict with ordinances and statutes. Any errors or omissions shall be reported, and any changes shall be shown in the as-built drawings and the additional work performed at no cost to the Owner.
- F. Submittal of bid shall indicate the Contractor has examined the site and drawings and has included all required allowances in his bid. No allowance shall be made for any error resulting from Contractor's failure to visit job site and to review drawings, and bid shall include costs for all required drawings and changes as outlined above, all at no cost to Owner.

1.11 EXCAVATION AND BACKFILL

- A. See other Divisions for excavation and backfill requirements.
- B. Underground piping shall be installed with a minimum of 24" cover from finish grade and deeper as noted on drawings. Excavation depths shall be coordinated with other trades.
- C. Excavation for pipes shall be cut a minimum of 6" below the required grade. A 6" bed of sand or other approved material shall be then placed and properly compacted to provide an accurate grade and uniform bearing throughout the length of the pipe.
- D. Sand used shall be certified to a resistance of not less than the surrounding soil when wet with distilled water and shall consist of clean, natural, washed sand. The particles size shall pass through a 3/8" screen, 90% of them will pass through a 1/4" screen and not more than 25% will pass through a No. 50 screen.
- E. Backfilling will not be placed until the work has been inspected, tested and approved.
- F. Clods or lumps 2" in size or larger will not be permitted in the backfill. If the excavated material is not suitable, adequate material shall be provided by hauling from other locations.
- G. Surplus earth or material remaining after backfilling shall be removed from the site as indicated in "Earthwork" section.

1.12 SUPERVISION AND COOPERATION

- A. This Contractor shall include the services of experienced superintendents for each sub-section who shall be constantly in charge of the work, together with the qualified journeymen, helpers and laborers, required to properly unload, install, connect, adjust, start, operate and test the work involved, including equipment and materials furnished by others and by the Owner.
- B. The work under this section shall be executed in cooperation with the work of other trades to prevent conflict or interference and to aid rapid completion of the overall project.

1.13 OPERATION

- A. The Owner may require operation of parts or all of the installation for beneficial occupancy prior to final acceptance. Refer to General Conditions of the Contract.
- B. Cost of utilities for such operation shall be paid by the Owner. Said operation shall not be construed as acceptance of the work.

1.14 UTILITY SERVICES DURING CONSTRUCTION

- A. All water and electric power used for construction shall be paid for by the Contractor.

1.15 COORDINATION

- A. Coordinate layout and installation of piping and suspension system components with other construction, including light fixtures, HVAC ductwork / equipment, electrical conduit, fire suppression system components, and partition assemblies.
- B. Coordinate pipe sleeve installations for foundations wall penetrations.
- C. Coordinate installation of pipe sleeves for penetrations through exterior walls and floor assemblies.

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND PANELS:

- A. Wherever valves, air vents, or other items or parts of the installation which require periodic inspection or adjustment are concealed by permanent non-removable construction, an access door or panel shall be provided. Installation of access doors to be coordinated by general contractor. Types to be submitted and approved for the surface, and construction in which it is installed. Access door to be manufactured by Mifab, Inc., or approved equal, and be Series CAD or UA, or series MFRU for fire rated walls.

2.2 ROOF FLASHING

- A. Furnish and install on each pipe passing through the roof, a "Stoneman" No. 1100-7, or approved equal, six pound, seamless lead flashing assembly. Flashing shall have reinforced boot and be complete with cast iron counter flashing sleeve and Permaseal waterproofing compound. All vent pipes shall be terminated 7" above the roof.

PART 3 - EXECUTION

3.1 INSTALLATION OF PLUMBING SYSTEMS

- A. No holes for pipe or equipment will be allowed in any structural members without written consent of the Resident Engineer. Where pipes are to pass through or interfere with any member, or where notching, boring or cutting of the structure is necessary, the work shall be done by the Contractor as directed by the Resident Engineer.

- B. The Contractor shall, at a time in advance of the work, coordinate with other disciplines as to his requirements for openings, recesses, and chases in the walls, partitions, or framing. Should furnishing this information be neglected, delayed, or incorrect and additional cutting is found to be required, the costs of same shall be charged to the Contractor.
- C. Sleeves through foundation walls shall be standard weight black steel pipe, flush with walls and two pipe sizes larger than the pipe passing through. Sleeves shall be caulked with oakum to within 1" of the wall lines and then completely filled with an approved bitumastic compound. Sleeves for piping through masonry wall above grade or floor or through floors shall be #10 gauge galvanized sheet steel and shall extend completely through the walls, or floor finishing flush on both sides. Sleeves shall be 1/2" larger than the pipe passing through with oakum caulking to make opening airtight. Sleeves through concrete firewalls or floors shall be packed with suitable non-combustible material. Provide and install polished chromium plate brass floor ceiling on wall plates for all pipes, exposed in finished portions of the buildings.
- D. All scaled and figured dimensions are approximate and are given for estimate purposes only. Before proceeding with any work, this Contractor shall carefully check and verify all dimensions, sizes, etc., and shall assume full responsibility for the installation with respect to other parts of the equipment, and to the structure.
- E. Any minor changes in work, which has not been installed, shall be made by this Contractor without additional compensation, except changes that are caused by architectural revisions that increase or decrease the size of the materials specified or indicated on the drawings.
- F. This Contractor shall submit an estimate of the cost of or credit for such changes he does not consider of a minor nature and shall proceed only upon the written authority of the Resident Engineer.
- G. Coordinate all sanitary vents through roof with HVAC equipment. Terminate all vents at least 10'-0" from any outside air intakes.
- H. Pipes Over Electrical Equipment: Where pipe joints or valves in pipes conveying water occur within 3' in a horizontal direction, of electrical panels and electronic equipment, provide a drip pan of galvanized steel construction of a size which will afford maximum protection.
 - 1. Pans: 24 gauge, edges turned up 2-1/2" all sides, reinforced with galvanized steel angles or by rolling edge over 1/4" diameter steel rod.
 - 2. Provide drain with 3/4" brass flange and copper pipe to floor.
 - 3. Support the pan with bars or angles, brace to prevent sagging or swaying.
- I. Install chrome plated split escutcheons around all pipes passing through finished walls, floors and ceilings.

3.2 TESTS AND ADJUSTMENTS

- A. No piping work, fixtures, or equipment shall be concealed or covered until inspected and approved by the Engineer, who shall be notified when the work is ready for inspection.

All work shall be completely installed, tested as required by this section and the State Ordinances and State Safety Orders, and shall be leak-tight before inspection is requested. All tests shall be repeated upon request to the satisfaction of those making the inspection.

- B. Disinfection of the potable water system prior to use shall meet the requirements of the California Plumbing Code section 609.9. The method to be followed shall be that prescribed by the Health Authority or, in case no method is prescribed by it, the following:
 1. The piping system shall be flushed with clean, potable water until only potable water appears at the points of outlet.
 2. The system or parts thereof shall be filled with a water-chlorine solution containing at least fifty (50) parts per million of chlorine, and the system or part thereof shall be valved-off and allowed to stand for twenty four (24) hours; or, the system or part thereof shall be filled with a water-chlorine solution containing at least two hundred (200) parts per million of chlorine and allowed to stand for three (3) hours.
 3. Following the allowed standing time, the system shall be flushed with clean, potable water until the chlorine residual in the water coming from the system does not exceed the chlorine residual in the flushing water.
 4. The procedure shall be repeated if it is shown by bacteriological examination made by an approved agency that contamination persists in the system.
- C. Piping tests shall be made with the medium and under pressure listed below. Use a calibrated Bristol Pressure Recorder on all tests. Recorder range shall be 0 - 300 pounds or required range for specific test.

Type of System	Gauge Pressure (Lbs. per sq. inch, gauge)	Test Medium
1. Soil, Waste, Vent Piping Within	Minimum of 5 psi for each joint, for	Water Building
duration of test with no loss in pressure		
2. Fuel Gas	50 PSI	Compressed Air
3. Domestic Water	150 PSI	Water

- D. Test pressure in pounds per square inch, gauge, are given as initial pressure to be applied to lines being tested, together with test medium.
- E. Tests are to be applied for a minimum period of twenty-four (24) hours and until tests are complete.
- F. Final pressures at the end of test period shall be no more nor less than that caused by expansion or contraction of the test medium due to temperature changes.

3.3 DRAWINGS OF RECORD

- A. Provide reproducible "as-builts" for the purpose of showing a complete picture of the work as actually installed. Copies of the contract drawings can be made available upon request at cost to the contractor.

- B. These drawings shall serve as work progress report sheets and the Contractor shall make all notations, neat and legible, thereon daily as the work proceeds. The drawings shall be available for inspection at all times and shall be kept at the job at a location designated by the Resident Engineer.
- C. At completion of the work, these as-built drawings shall be signed by the Contractor indicating his approval, dated and returned to the Resident Engineer.
- D. Invert elevations for buried piping and conduit. The dimensions location of all concealed raceway shall be accurately recorded on the "as-built" drawings. Elevation, on Mean Sea Level base, of all piping and conduit runs outside the building shall be recorded.

3.4 FINAL INSPECTION

- A. If upon final completion of the final inspection and review of the maintenance manuals and "as-built" drawings, the list of required corrections is such that a re-inspection is required, the contractor will be subject to a charge of Ninety Dollars (\$90.00) per hour for any additional time required.

3.5 GUARANTEE

- A. All work under this section shall be guaranteed in writing in accordance with the General Provisions.
- B. All material except as otherwise noted shall be new, free from defect and of the quality and rating shown or specified.
- C. Any defect due to missing or improper material or faulty workmanship existing or developing during the warranty period shall be corrected and the resulting damage repaired without additional cost to the Owner.
- D. The warranty period shall be one year from date of acceptance of the project.

END SECTION 220500

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Pipe Hangers
 - 2. Supports

PART 2 - PRODUCTS

2.1 PIPE HANGERS AND SUPPORTS

- A. All pipe hangers and supports installed in exterior location shall be galvanized.
- B. Split ring hangers with swivel adjuster, solid rods and rod sockets: Steel pipe Fee and Mason Fig. 212, or Super-Strut M-718T.
- C. Adjustable Beam Clamps: Fee and Mason Fig. 246 or Super-Strut Fig. CM-754 (where this type is not adaptable, an approved top beam, side beam, or channel clamp by Fee and Mason or Super-Strut, will be acceptable).
- D. Trapeze Hangers: Super-Strut A-1200 or Unistrut P-1000 channel with pipe clamps and guides as required (include type to be used in submittal).
- E. Riser Clamps (4" Pipe and Less): Fee and Mason Fig. 241 or Super-Strut C-720.
- F. Offset Pipe Clamps: Fee and Mason Fig. 366, or Super-Strut C-720L.
- G. Pipe Isolation: All piping shall be isolated from dissimilar metals, other piping, any part of the building, framing, conduit, supports etc., with Elmdor/Stoneman Series 500 trisolator or approved equal.

PART 3 - EXECUTION

3.1 PIPE HANGERS AND SUPPORTS

- A. Horizontal piping shall be supported as follows: Use beam clamps for attachment to structural steel surfaces and expansion type inserts for attachment to concrete surfaces. Clamps and inserts shall be sized for the required hanger rod and comply with all applicable codes and safety regulations. The use of "C" clamps designed to attach threaded rod to one side of a steel beam flange shall not be used unless they are provided with a restraining strap, or hook to the opposite beam flange.

- B. Piping shall be firmly held in place by adjustable split ring malleable iron hangers, supports and pipe rests, located adjacent to fittings at each offset or change of direction, at the ends of branches over 5' long, at riser pipes and along piping where necessary to prevent sags, bends, or vibration. All hangers and supports shall be of a design that will support the combined weight of pipe, fluid and insulation.
- C. Pipe straps shall be heavy gauge galvanized iron factory fabricated to fit against supporting surface when installed. Makeshift devices will not be acceptable. No plumbing tape is allowed.
- D. Lateral bracing shall be provided at every fourth hanger where hanger rods are more than 18" in length.
- E. Hangers supported by concrete structure shall be attached by cast iron manufactured concrete inserts installed at the time concrete is poured and each insert shall be provided with through rods lapped over structural reinforcing.
- F. Hangers supported by structural steel shapes shall be attached by cast-iron clamps designed for use on the specific steel shape and equipped with retainers.
- G. All hangers shall be attached to halter rod by means of adjustable swivel, turnbuckle or double nut to allow height adjustment.
- H. Vertical piping shall be suitably supported from the building structure where required by means of malleable iron or steel pipe clamps of ample size, either bolted or welded to the pipe and supported at the floor slab. Supports where indicated on the drawings shall also act as anchors to allow for expansion and contraction of the piping. Provide rubber isolators for clamps where required for elimination of vibration and sound to the structure.
- I. Miscellaneous Supports: Wall brackets, etc., shall be provided where required in accordance with the best standard practice of the trade in a manner as approved by the Resident Engineer.
- J. In the event additional structural steel is required to transmit loads to main structure, it shall be provided at no additional cost to the Owner.
- K. Soil, Waste, Vent and Down Spouts: Hanger rod sizes shall be as follows:

1-1/2" to 2" Pipe	3/8" Rod
2-1/2" to 3-1/2" Pipe	1/2" Rod
4" to 5" Pipe	5/8" Rod
- L. Domestic Water:
 - 1. Hanger Spacing shall be as Follows for Copper Tubing:

1/2" to 3/4" Pipe	5'-0"
1" Pipe	6'-0"
1-1/4" Pipe	7'-0"
1-1/2" to 2" Pipe	8'-0"

2. Hanger Rod Sizes shall be as Follows:

3/4" to 2" Pipe	3/8"	Rod
2-1/2" to 3-1/2" Pipe	1/2"	Rod

- M. For horizontal installations, hangers or supports shall be provided for at least every other joint except when the developed length between supports exceeds 4'. If the developed length exceeds 4', hangers or supports shall be provided at each joint. Supports shall also be provided at each horizontal branch connection. Hangers, supports, or blocks shall be adequate to maintain alignment and prevent sagging or joint separation. Hangers, supports or blocks shall be placed on, or immediately adjacent to, the coupling, not to exceed 18". Adequate provisions shall be made to prevent "shear."
- N. Vertical "no-hub" components shall be secured at each stack base, and at sufficiently close intervals to keep system in alignment and to adequately support the weight of the pipe and its contents.
- O. Trap arms and similar branches must be firmly secured against movement in any direction. Closet bends shall be stabilized by firmly strapping and blocking. Where vertical closet stubs are used, they must be completely stabilized against all horizontal movement.

END OF SECTION 220529

SECTION 220533 - PLUMBING IDENTIFICATION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Equipment Labels
 - 2. Warning Signs and Labels
 - 3. Pipe Labels
 - 4. Stencils
 - 5. Valve Tags
 - 6. Warning Tags

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated submit list of wording, symbols, letter size, and color coding for identification of plumbing.
- B. Samples: Included with the above submittals, shall be samples of each identification material and device used.
- C. Equipment Label Schedule: Include a listing of all equipment to be labeled with the proposed content for each label.
- D. Valve numbering scheme.

1.3 COORDINATION

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 EQUIPMENT LABELS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - 3. Bunting Mechanical Identification Systems
 - 4. Or Approved Equal

- B. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8" thickness minimum, and having predrilled holes for attachment hardware.
- C. Letter Color: White
- D. Background Color: Black
- E. Maximum Temperature: Able to withstand temperatures up to 160 deg F.
- F. Minimum Label Size: Length and width vary for required label content, but not less than 2 1/2" x 3/4".
- G. Minimum Letter Size: 1/2" for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.
- H. Fasteners: Stainless Steel
- I. Adhesive: Contact type permanent adhesive, compatible with label and with substrate.
- J. Label Content: Include equipment's drawing designation or unique equipment number.
- K. Equipment Label Schedule: For each item of equipment to be labeled, on 8-1/2-by-11-inch bond paper. Tabulate equipment identification number and identify drawing numbers where equipment is indicated (plans, details, and schedules), plus the specification section number and title where equipment is specified. Equipment schedule shall be included in operation and maintenance data.

2.2 WARNING SIGNS AND LABELS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - 3. Bunting Mechanical Identification Systems
- B. Material and Thickness: Multilayer, multicolor, plastic labels for mechanical engraving, 1/8" thickness minimum, and having predrilled holes for attachment hardware.
- C. Letter Color: Red
- D. Background Color: White
- E. Maximum Temperature: Able to withstand temperatures up to 160 deg F.
- F. Minimum Label Size: Length and width vary for required label content, but not less than 2 1/2" x 3/4".
- G. Minimum Letter Size: 1/2" for viewing distances up to 72 inches, and proportionately larger lettering for greater viewing distances. Include secondary lettering two-thirds to three-fourths the size of principal lettering.

- H. Fasteners: Stainless Steel
- I. Adhesive: Contact type permanent adhesive, compatible with label and with substrate.
- J. Label Content: Include caution and warning information, plus emergency notification instructions.

2.3 PIPE LABELS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - Bunting Mechanical Identification Systems
- B. General Requirements: Preprinted, color-coded with lettering indicating service, and showing flow direction.
- C. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to partially cover circumference of pipe and to attach to pipe without fasteners or adhesive.
- D. Self-Adhesive Pipe Labels: Printed plastic with contact type permanent adhesive backing.
- E. Pipe Label Contents: Including identification of piping service using same designations or abbreviates as used on drawings, pipe size, and an arrow indicating flow direction.
 - 1. Flow Direction Arrows: Integral with piping system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
 - 2. Lettering Size: At least 1-1/2" high.
- F. Letter Color: See section 3.B.4 below.
- G. Background Color: See section 3.B.4 below.

2.4 STENCILS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - 3. Bunting Mechanical Identification Systems
- B. General Requirements: Prepared with letter sizes according to ASME A13.1 for piping and minimum letter height of 3/4" for access panel and door labels, equipment labels, and similar operational instructions.
- C. Material: Metal

- D. Stencil Paint Color: Exterior, gloss, black unless otherwise indicated. Paint me be in pressurized spray-can form.
- E. Identification Paint: Exterior in colors according to ASME A13.1 unless otherwise indicated.
- F. Letter Color: See section 3.B.4 below.
- G. Background Color: See section 3.B.4 below.

2.5 VALVE TAGS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - 3. Bunting Mechanical Identification Systems
- B. General Requirements: Stamped or engraved with ¼” letters for piping system abbreviation and ½” numbers.
- C. Material: Aluminum, 0.032” minimum thickness, and having predrilled or stamped holes for attachment hardware.
- D. Fasteners: Brass beaded chain.
- E. Valve Schedule: For each piping system to be labeled, on 8-1/2-by-11-inch bond paper. Tabulate valve identification number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating position (open, closed or modulating) and variations for identification. Mark valves for emergency shutoff and similar special uses. Valve schedule shall be included in operation and maintenance data.
- F. Valve Tag Color: See section 3.C.2 below.
- G. Valve Letter Color: See section 3.C.2 below
- H. Valve Size and Shape: See section 3.C.2 below.

2.6 WARNING TAGS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - 3. Bunting Mechanical Identification Systems
- B. General Requirements: Preprinted or partially printed accident prevention tags.
- C. Material: Plasticized card stock with matte finish suitable for writing.
- D. Size: 3”x5-1/4” minimum

- E. Color: Yellow background with black lettering.
- F. Fasteners: Brass grommet and wire.
- G. Nomenclature: Large size primary caption such as “DANGER”, “CAUTION”, or “DO NO OPERATE”.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulates.

3.2 INSTALLATION

A. Equipment Labels

- 1. Install or permanently fasten labels on each major item of plumbing equipment.
- 2. Locate equipment labels where accessible and visible.

B. Pipe Labels

- 1. Pipe color coding/painting per specification section 099123-Interior Painting.
- 2. Stenciled Pipe Label Option: Stencil labels may be provided instead of manufactured pipe labels, at installer’s option. Install stenciled pipe, complying with ASME A13.1, on each piping system.
 - a. Identification Paint: Use for contrasting background.
 - b. Stencil Paint: Use for pipe marking
- 3. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums, and exterior exposed locations as follows:
 - a. Near each valve and control device.
 - b. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
 - c. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
 - d. At access doors, manholes, and similar access points that permit view of concealed piping.
 - e. Near major equipment items and other points of origination and termination.
 - f. Spaced at maximum intervals of 50 feet along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.
 - g. On piping above removable acoustical ceilings. Omit intermediately spaced labels.

4. Pipe Label Color Schedule:
 - a. Domestic Water Piping
 - 1) Background Color: Blue
 - 2) Letter Color: White
 - b. Sanitary Waste Piping
 - 1) Background Color: White
 - 2) Letter Color: Green

C. Valve Labels

1. Install tags on valves and control devices in piping systems, except check valves, valves within factory-fabricated equipment units; shutoff valves; faucets; convenience and hose bibb connections; and similar roughing-in connections of end use fixtures and units. List tagged valves in a valve schedule.
2. Valve Tag Application Schedule: Tag valves according to size, shape, and color scheme and with captions similar to those indicated in the following subparagraphs:
 - a. Valve-Tag Size and Shape
 - 1) Cold Water: 2" Round
 - 2) Hot Water: 2" Round
 - b. Valve-Tag Color
 - 1) Cold Water: Green
 - 2) Hot Water: Green
 - c. Letter Color
 - 1) Cold Water: Black
 - 2) Hot Water: Black

D. Warning Tags

1. Write required message on, and attach warning tags to, equipment and other items where required.

END OF SECTION 220533

SECTION 220700 - PLUMBING INSULATION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. The work covered by this specification consists of furnishing all labor, equipment, materials and accessories, and performing all operations required, for the correct installation of insulation on all piping, fittings, valves, controls and all other necessary items connected into the system subject to condensation or loss of heat.

1.2 SUBMITTALS

- A. Product Data: Provide product description, list of materials and thickness for each service or equipment scheduled, locations, and manufacturer's installation instructions.
- B. Shop Drawings: Submit list of insulation to be used for each service. Include installation details for valves, fittings, pipe and all other items to be insulated.
- C. Samples: Included with the above submittals, shall be samples of each insulation to be used.

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics and insulating cements.

1.4 QUALITY ASSURANCE

- A. Insulation Materials: Insulation materials must be manufactured at facilities certified and registered with an approved registrar to conform to ISO 9001 Quality Standard.
 - 1. Pipe insulation shall be preformed and furnished in standard lengths with ends cut square, conforming to the dimensional requirements of ASTM C 585.
 - 2. Insulation materials shall be asbestos free.
 - 3. All insulating products shall have a 25/50 flame spread/smoke developed rating as tested in accordance with ASTM E 84.
- B. Workmanship: All insulation to be installed by a licensed applicator and applied in accordance with the manufacturer's recommendations.
 - 1. All work shall conform to accepted industry and trade standards for commercial and industrial insulations.
 - 2. Surfaces to be insulated shall be clean and free of dirt, scale, moisture, oil and grease.

1.5 DELIVERY AND STORAGE OF MATERIALS

- A. Deliver all materials to the jobsite and protect the insulation against dirt, water, chemical and mechanical damage before, during and after installation. Do not install damaged insulation and remove it from the project site.
- B. Deliver insulation, coverings, cements, adhesives coatings etc. to the site in factory-fabricated containers with the manufacturer's stamp or label affixed showing fire hazard ratings of the products.
- C. Installed insulation which has not been weatherproofed shall be protected from inclement weather by approved waterproof sheeting installed by the contractor. Any wet or damaged insulation shall be removed and replaced by the contractor at no additional cost.

PART 2 - PRODUCTS

2.1 INSULATION

- A. All domestic hot water supply piping shall be insulated with Johns Manville, or approved equal, Micro-Loc HP preformed fiber glass pipe insulation, complying with ASTM C 547, Class 13 (to 850°F), rigid, molded pipe insulation, noncombustible.
 - 1. Thermal Conductivity ("k"): 0.23 Btu•in/(hr•ft²•°F) at 75°F mean temperature per ASTM C 518.
 - 2. Maximum Service Temperature: 850°F.
 - 3. Rated 25/50 per ASTM E 84, UL 723 and NFPA 255.
 - 4. When being used over stainless steel, product must comply with the requirements of ASTM C 795.
 - 5. All-Service (ASJ) Vapor-Retarder Jacket: A white, kraft paper, reinforced with a glass fiber yarn and bonded to an aluminum foil, with selfsealing longitudinal closure laps (SSL) and butt strips.
- B. Field-Applied Jackets:
 - 1. PVC Plastic: Zeston 2000 Series. One piece, molded type fitting covers and jacketing material, gloss white.
 - 2. Connections: Tacks, pressure sensitive, color matching, vinyl tape.
 - 3. Aluminum Jacket: 0.016" thick sheet, (smooth/ embossed) finish, with longitudinal slip joints and 2" laps, die-shaped fitting covers with factory-attached protective liner.
 - 4. Stainless Steel Jacket: Type 304 stainless steel, 0.10", (smooth/ corrugated) finish.

2.2 FITTINGS, VALVES, TEES, ETC.

- A. All fittings, valves, tees, flanges, connections, etc. shall be insulated and covered with the appropriate Zeston 2000 PVC or metal insulated fitting cover.
 - 1. Fittings shall be manufactured from ultraviolet resistant PVC.

2. Connections: Tacks, pressure sensitive, color matching, vinyl tape, Perma-Weld Adhesive.

2.3 EXPOSED DRAIN AND SUPPLY PIPES BELOW LAVATORIES

- A. Insulate all drainage piping including all hot and cold water valve and supplies under lavatories. PVC Insulators to comply with CBC (California Building Code) shall meet Testing Standard ASTM E 84-07 with a 25 flame spread/50 smoke. Insulators to meet and be listed with IPC/IAPMO Property and Material Standard PS 94-2008. With a one-piece design, fusion molded fabrication and pliable for high flexibility requirements. PVC insulators material to be 1/8" thick. Surfaces to be soft, smooth, nonabsorbent, easy to clean U/V inhibited, antimicrobial, antifungal properties. Insulator shall have a dual fastening system which consists of fusion bonded Velcro fastener strips for full slit enclosure and tamper resistant, smooth, non-abrasive snap-locking fasteners. Surfaces to be soft, smooth, non-absorbent, easy to clean U/V inhibited, antimicrobial, antifungal properties. Insulators shall have a dual fastening system which consists of fusion bonded Velcro fastener strips for full slit enclosure and tamper resistant, smooth, non-abrasive snap-locking fasteners. Manufacturer: Plumberex or approved equal Brand: Handy-Shield Maxx

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify that the fiber glass pipe insulation may be installed in accordance with project drawings, operation performance parameters and limitations of the specification.
- B. Tests of the piping system shall be completed prior to insulation application.
- C. All piping shall be cleaned of foreign substances and free of surface moisture prior to insulation application.

3.2 INSTALLATION

- A. Pipe insulation thickness:
 1. Runouts to individual fixtures that are no more than 12 feet long and smaller than 2" shall be insulated with 0.5" insulation.
 2. Pipe sizes up to 4" shall be insulated with 1.0" insulation.
- B. General:
 1. All pipe insulation shall be continuous through wall and ceiling openings and sleeves, except where fire stop materials are required.
 2. All surface finishes are to be extended to protect all surfaces, ends and raw edges of insulation.
 3. Rigid insulation inserts shall be installed on pipe sizes 1½" or larger under outside hangers. Inserts shall be of equal thickness to the adjoining insulation and shall be provided with vapor retarder seals where required.

4. Insulation inserts shall not be less than the following lengths:

Pipe Size, In.	Length, In.
1½ – 2½	10

5. Galvanized metal shields shall be applied between hangers or supports and the pipe insulation. Shields shall be formed to fit the insulation and shall extend up to the centerline of the pipe and the length specified for the insulation hanger inserts less 4" to allow for vapor retarding butt joints on each side of the shields.
6. Specified adhesives, mastics and coatings shall be applied at the manufacturer's recommended minimum coverage per gallon.
7. When Zeston 2000 PVC Insulated Fitting Covers are used, care shall be taken to ensure that the surface temperature of the fitting will be kept below 150°F by the use of a proper thickness of insulation and by keeping the PVC cover away from contact with, or exposure to, sources of direct or radiant heat.

- C. Indoor piping: This portion of the installation procedure is applicable for piping in all indoor areas, including concealed spaces, mechanical rooms and inhabited areas.

1. Preformed fiber glass pipe insulation with all service jacket shall be applied to piping with all joints tightly fitted to eliminate voids.
2. Longitudinal jacket laps and butt strips shall be smoothly secured according to manufacturer's recommendations.
3. When adhered, the lap and butt strips must be pressurized by rubbing firmly with a plastic squeegee or the back of a knife blade to ensure positive closure.
4. The installed thickness shall be enough that the surface temperature shall be kept below 150°F.
5. For pipe exposed in mechanical equipment rooms or in finished spaces less than 10' above finished floor, finish with aluminum jacket.
6. Fittings, valves and flanges shall be insulated with PVC insulated fitting covers and Hi-Lo Temp insulation inserts per manufacturer's recommendations.

END OF SECTION 220700

SECTION 221100 - DOMESTIC WATER PIPING AND SPECIALTIES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Copper Pipe
 - 2. Valves and Fittings
 - 3. Piping Specialties

1.2 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of plumbing specialties and are based on the specific system indicated.
- B. Plumbing specialties shall bear label, stamp, or other markings of specified testing agency.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for piping materials and installation.
- E. NSF Compliance:
 - 1. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic domestic water piping components. Include marking "NSF-PW" on plastic potable-water piping and "NSF-DWV" on plastic drain, waste, and vent piping.
 - 2. Comply with NSF 61, "Drinking Water System Components--Health Effects, Sections 1 through 9," for potable domestic water plumbing specialties.

PART 2 - PRODUCTS

2.1 ALL DOMESTIC WATER PIPING

- A. Above grade shall be type "L" copper tubing hard drawn with wrought copper solder sweat fittings. Where below grade and within 5' of building line, shall be type "K" copper tubing in single continuous length with polyethylene outer tubing.

2.2 VALVES AND FITTINGS

- A. Ball valves 2" and smaller (Lead Free): Two-piece alloy C69300 (copper-zinc-silicon) body; sweat or threaded ends, alloy C69300 ball; virgin PTFE seat ring; brass alloy C36000 packing gland, O-Ring EPDM, alloy 69300 blowout-proof stem; 600 psig CWP. Nibco T/S 685-80-LF or approved equal.
- B. Spring loaded check valves 2" and smaller (Lead Free): Alloy C87850 body, sweat or threaded ends, stainless steel spring, stainless steel stem, stainless steel disc holder, PTFE disc; 250 PSI CWP. Nibco S/T 480-Y-LF or approved equal.
- C. Swing check valves 2" and smaller (Lead Free): Alloy C87850 body, sweat or threaded ends, Y-pattern, renewable PTFE seat disc, 200 PSI CWP, suitable for installation in a horizontal or vertical line with flow upward. Nibco S/T 413-Y-LF or approved equal.
- D. Balance valves 2" and smaller (Lead Free): Brass body, stainless steel ball, sweat or threaded ends, glass and carbon filled TFE seat, brass readout valves with EPT check valves, EPDM stem "O" ring, , suitable for 400 PSIG water working pressure at 250°F for NPT models and 200 PSIG water working pressure at 250 °F for sweat models. Bell & Gossett CB-LF or approved equal.
- E. Stops (Lead Free): Heavy pattern brass chrome plated with 3/8" O.D. compression outlet, 1/2" I.P.S. inlet and riser to match application. Provide stuffing box lock-shield with loose key and shallow stainless steel escutcheon in all exposed public applications. Note: Valve must weigh no less than 6.5 ounces. Dual outlet stops shall be provided with optional brass stem. Stops shall be Brass Craft Compliant KT or approved equal.
- F. Combination Pressure and Temperature Relief Valve (Lead Free): Lead free brass body, temperature and pressure actuated, stainless steel stem and spring, thermostat with non-metallic coating, test lever, suitable for 125 psig water working pressure at 240°F, sized for full BTUH input and operating pressure of equipment, with valve capacity on metal label. For equipment less than or equal to 200,000 BTUH input, provide AGA, U.L. or ASME listed and labeled valve. Provide ASME listed and labeled valve for larger equipment. Temperature and pressure relief valve shall be sized per AGA rating for BTUH input. Watts LF40XL.

2.3 PIPING SPECIALTIES

- A. Unions in Copper Tubing 2" and Smaller: ANSI B16.18 cast bronze union coupling or ANSI B15.24 class 150 bronze flanges. Nibco 733.
- B. Dielectric Fittings:
 - 1. Provide fittings and unions to install between pipes made of dissimilar metals. Unions shall be factory certified to withstand a minimum of 600 volts on a dry line with no flash over and shall be rated to 180°F at 250 PSI. Flanged fittings shall have a bolt isolator to insulate each bolt in the flange and shall be rated at 175 PSI. Bolts shall be constructed of durable, corrosion resistant polysulfone. Flanged fittings shall have a Standard Gasket "A" (GA) suitable for water, air, oil, natural gas, propane, gasoline, kerosene, mineral oil, vegetable oil and

alkalines in 210°F at 250 PSI. Threaded end connections shall meet ANSI B2.1 and flanged fittings shall meet ANSI B16.42 (iron) and ANSI B16.24 Bronze. Unions shall conform to ANSI B16.39, including hydrostatic strength and air pressure testing. Dielectric fittings and unions shall be constructed of the following materials:

- | | | |
|----|----------------------|---------------|
| a. | Gray Iron | ASTM A48-83 |
| b. | Malleable iron parts | ASTM A-197-79 |
| c. | Steel parts | ASTM A108 |
| d. | Bronze parts | ASTM B-16 |
| e. | Zinc parts | ASTM B633-85 |

2. Dielectric fittings shall be WATTS Series 3000.

C. Water hammer arrestors: ANSI A112.26.1, ASSE 1010, sized in accordance with PDI WH-201, precharged piston type constructed entirely of stainless steel, threaded brass adapter, brass piston with O-ring seals, FDA approved silicone lubricant, suitable for operation in temperature range 35°F to 150°F maximum 150 psig working pressure, 1500 psig surge pressure. J. R. Smith Series 5000.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. Joints in copper tubing shall be made by first thoroughly cleaning the surface of the pipe and fittings, applying flux and sweating with 95-5 tin Antimony "soft-solder."
- B. Pipe shall be carefully cleaned before installation. The ends of threaded pipe shall be reamed out full size with a long taper reamer so as to be partially bell-mouthed and perfectly smooth.
- C. Flush out all water mains with water so as to obtain free flow. Remove all obstructions and defects discovered. Remove and re-lay any sections and pipe already laid and found to be defective or which has had grade or joints disturbed.
- D. Openings in pipes, drains, fittings, apparatus and equipment shall be kept covered or plugged to prevent foreign substance from entering.
- E. Run piping free of traps, sags, or bends. Grade and valve for complete drainage and control of the system.
- F. All piping to be run to maintain headroom and keep passageways and openings clear. Run parallel and straight with adjacent walls or ceilings to present a uniform appearance.
- G. All piping, except where noted otherwise on plans, shall be concealed in walls or above ceilings.
- H. Bending or forcing of pipe will not be allowed. Use fittings for all offsets or changes in alignment of piping.

- I. Proper provision shall be made for expansion and contraction by means of fittings and anchors and supports of all piping.
- J. Street elbows, bushings and long screw fittings will not be allowed.
- K. All piping shall be isolated from dissimilar metals, other piping, any part of the building, framing, conduit, supports etc., with Elmdor/Stoneman Series 500 trisolator or approved equal.
- L. PDI sized water hammer arresters shall be installed at the end of the branch line between the last two self-closing water faucet / flush valve fixtures served. When the branch line exceeds 20'-0" in length, an additional water hammer arrester shall be installed.
- M. Unions shall be installed after each screw-type valve, connections for all equipment, appliances and as required for erection and maintenance. No unions shall be installed in a concealed location.
- N. Install isolation unions on all connections between dissimilar metals (galvanized steel, black steel to copper).

END OF SECTION 221100

SECTION 221300 - SANITARY WASTE, VENT, AND SPECIALTIES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Sanitary Waste Piping
 - 2. Pipe Fittings

PART 2 - PRODUCTS

2.1 FITTINGS AND PIPING

- A. Soil, Waste, and Vent Above and Below Grade Within 5' of Building Line: No hub service weight cast iron soil pipe and fittings conforming to the latest issue of CISPI 301, ASTM A-888. Pipe and fittings shall be GreenSpec listed. Manufacturer shall be Charlotte, Tyler, AB&I, or approved equal.
- B. Joints: Joints for hubless pipe and fittings shall conform to the manufacturer's installation instructions and local code requirements. Hubless couplings shall be composed of a heavy duty four or six band coupling, stainless steel shield / clamp assembly and a fire resistant neoprene gasket conforming to ASTM C1540, CISPI 310, Factory Mutual 1680 Class 1, and bear the NSF trademark, manufactured by Anaco Husky SD4000, Fernco, MiFab or approved equal. Joints for hub and spigot shall be installed with compression gaskets conforming to the requirements of ASTM C-564, or shall be installed with lead and oakum.
- C. Sewer from 5' outside building except as otherwise noted on plans; Schedule 40 PVC piping conforming to ASTM D 2665, fittings conforming to ASTM D 2466 with solvent welded joints conforming to ASTM D2564.
- D. Vent Piping: Service weight cast-iron with same joint as used for soil and waste above grade.

2.2 CLEANOUTS

- A. Wall Cleanouts: J.R. Smith Fig. 4472, or approved equal, series countersunk plug with chrome plated cover and screws.

2.3 ROOF FLASHING

- A. Furnish and install on each pipe passing through the roof, a "Stoneman" No. 1100-7, or approved equal, six pound, seamless lead flashing assembly. Flashing shall have reinforced boot and be complete with cast iron counter flashing sleeve and Permaseal waterproofing compound. All vent pipes shall be terminated 7" above the roof.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. No-Hub cast-iron Soil Pipe Institute Pamphlet #100 and the I.A.P.M.O. IS-6-75.
- B. All sanitary sewers and waste lines shall grade as indicated on drawings. The sections of the pipe shall be laid and fitted so that when completed the pipe will have smooth and uniform invert. Water shall not be allowed in the trenches while the pipes are being laid. Dirt, cement, or any other superfluous material of any description shall be carefully removed from the interior of the piping system as the work progresses. Constant inspection shall be made in pipe and fittings during and after all installation for possible fractures and failures caused by installation. Backfill so as not to disturb pipe or jointing.
- C. Flush out all sanitary drains with water so as to obtain free flow. Remove all obstructions and defects discovered. Remove and re-lay any sections of pipe already laid and found to be defective or which has had grade or joints disturbed.
- D. Openings in pipes, drains, fittings, apparatus and equipment shall be kept covered or plugged to prevent foreign substance from entering.
- E. Run piping free of traps, sags, or bends. Grade and valve for complete drainage and control of the system.
- F. All piping to be run to maintain headroom and keep passageways and openings clear. Run parallel and straight with adjacent walls or ceilings to present a uniform appearance.
- G. All piping, except where noted otherwise on plans, shall be concealed in walls or above ceilings.
- H. Bending or forcing of pipe will not be allowed. Use fittings for all offsets or changes in alignment of piping.
- I. Vents shall penetrate through the roof with water-tight flashing and shall terminate no less than 7" above the roof and at least 1'-6" from vertical walk and parapets. Coordinate with ventilation plans. Locate all terminations at least 10'-0" from air intakes or windows.

3.2 CLEANOUTS

- A. As specified (see plans for size), cleanouts shall be caulked into pipe where shown on plans under countertops where they occur in walls to avoid their being too conspicuous. Cleanouts shall be accessible in all cases and shall be brought to surface on "Y" branches. All cleanouts shall be provided with removable floor or wall plate as herein specified.
- B. In addition to the cleanouts shown on the plans, install cleanouts in all horizontal lines at each aggregate change of direction exceeding 135°, and at the base of any vertical riser longer than 8'-0". Install cleanout outside the building at the lower end of the building drain and extend to grade.

END OF SECTION 221300

SECTION 224000 - PLUMBING FIXTURES

PART 4 - GENERAL

4.1 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Plumbing Fixtures
 - 2. Fixture Supports

PART 5 - PRODUCTS

5.1 PLUMBING FIXTURES

- A. Plumbing fixtures shall be as shown in equipment schedule.
- B. Reference is made to Crane Company, it is understood to mean that equivalent fixtures as manufactured by Elkay, American Standard, Kohler, Eljer, or approved equal, are acceptable if used throughout. Faucets by Symmons, equivalents by Zurn, T & S, Bradley, or approved equal, are acceptable. Equivalent toilet seats by Beneke, Olsonite, or approved equal, are acceptable. Equivalent carrier, floor drains, etc. by J.R. Smith, Josam, Wade, Zurn, or approved equal, are acceptable.
- C. All sinks shall have a clean-out.

PART 6 - EXECUTION

6.1 FIXTURE INSTALLATION

- A. All plumbing fixtures shall be bedded and caulked along joint at walls, countertops, and other intersecting surfaces with Vulkem white silicone, use clear at stainless steel fixtures.
- B. Plumbing fixture trim and exposed supplies and waste shall be brass with polished chrome plated finish. Individual loose key stops, or, so specified, screw driver stops, shall be provided for all supplies, and unless integral with valves or faucets, unless otherwise approved by Resident Engineer, shall be mounted under the fixture. Exposed supplies and wastes through walls shall be provided with polished chrome plated cast brass wall escutcheons.
- C. Fixtures with hangers or supporting arms shall have hangers or arms securely mounted on a 1/4" thick x 6" wide steel wall plate which shall extend at least one stud beyond the first and last fixture mounting points. Concealed arm assemblies shall be attached to plates by four 3/8" x 1-1/4" steel bolts and nuts, and hangers and exposed arms by 5/16" minimum full thread steel studs and jamb nuts. Plates shall be drilled and tapped at the time of fixture installation.

- D. Wall plates shall be recessed flush with studs and shall be securely attached to each stud crossed. In steel stud construction, a 1-1/2" x 18" long furring channel shall be attached to each notched stud with fillet welds 1" long on 6" centers front and back. Plates shall be continuous fillet welded at both top and bottom to each furring channel.

END OF SECTION 224000

SECTION 260000 - ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

- A. The Bidding Requirements, Conditions of the Contract, General Provisions, and Special Conditions are a part of this section and the contract for this work and apply to this Section as fully as if repeated herein.

1.02 SCOPE:

- A. Work Included: All labor, materials, appliances, tools, equipment necessary for and incidental to performing all operations in connection with furnishing, delivery and installation of the work of this Section, complete, as shown on the drawings and/or specified herein. Work includes, but is not necessarily limited to the following:
 - 1. Examine all other sections for work related to those other sections and required to be included as work under this section.
 - 2. Examine the general provisions and requirements for electrical work.

1.03 GENERAL SUMMARY OF ELECTRICAL WORK

- A. These specifications and drawings are intended to cover a complete operation of systems. The omission of expressed references to any item of labor or material for the proper execution of the work in accordance with present practice of the trade shall not relieve the Contractor from providing such additional labor and materials.
- B. This specification, the drawings and General Conditions over the complete furnishing and installation of the electrical system and all related work including, but not limited to the following:
 - 1. Demolition and removal of existing outlets, conduit and wire.
 - 2. Install new outlet boxes, conduit and wire.

1.04 WORK NOT INCLUDED

- A. The furnishing and/or installation of electrical motors are by Mechanical Division 23.
- B. The painting of any conduits, equipment or devices, unless specifically noted otherwise.

1.05 COORDINATION

- A. Examine all other sections of these specifications and drawings to determine the complete scope of the electrical work and coordinate all of the electrical work required for the entire project. Provide the correct electrical service to each piece of electrical equipment, and check and coordinate the required electrical service and controls with the actual equipment provided under the other sections of the project.

1.06 INTERPRETATION OF DRAWINGS

- A. These drawings showing the layout of the electrical system indicate approximate locations of outlets, apparatus and equipment. The routes of feeders and branch circuits shown on the drawings are schematic only and are not intended to shown the exact routing and location of conduits and conduit termination.

1.07 ORDINANCES AND REGULATIONS

- A. All work and materials shall be in full accordance with the latest rules of the Municipal Agency, the National Board of Fire Underwriters and State of California Code of Regulations (CCR) Title 24.
- B. Nothing in these plans and specifications is to be construed as permitting work not conforming to these codes.

1.08 PERMITS AND INSPECTIONS

- A. Apply and pay for all permits required by any of the legally constituted public authorities for the installation or construction of the work included under this Division.

1.09 REFERENCE STANDARDS

- A. Materials and workmanship shall conform to the editions of the following standards, codes, or specifications in effect on the date of this specification, unless otherwise specified.

Codes and Regulations of the Jurisdictional Authorities

CEC	2010 California Electrical Code (CCR Title 24 Part 3), based on the 2008 National Electrical Code.
	California Code of Regulations (CCR) Title 24 Parts 1 through 12.
NEMA	National Electrical Manufacturers Association - applicable standards
NFPA	National Fire Protection Association – applicable sections referenced by CCR Title 24
UL	Underwriter's Laboratories, Inc. - applicable standards

- B. UL Label: All electrical materials and equipment falling within the scope of the underwriters’ standards shall bear the UL Label.

1.10 EXAMINATION OF DRAWINGS AND SITE

- A. Contractor shall carefully examine the site and existing building, shall compare the drawings with the existing electrical installations, and shall thoroughly familiarize himself with all existing conditions within the scope of this work.

1.11 SEQUENCING AND SCHEDULING OF WORK

- A. Coordinate work with the work of the other trades, so that the work may proceed as expeditiously as possible.

1.12 ELECTRICAL CHARACTERISTICS

- A. Electrical characteristics for this project are 120/208 volts, three phase, 4 wire, 60 hertz.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. All material shall be new unless specifically noted otherwise.

2.02 OUTLET BOXES

- A. Outlet boxes shall be used as pull boxes wherever possible, and junction boxes or pull boxes shall be installed only as required by the drawings or specifications, or as directed.
- B. Unless otherwise specified or noted on the drawings, boxes for the various outlets shall be as follows:
 - 1. For any exposed wiring device box, use cast aluminum or feraloy boxes.
 - 2. Interior wiring device boxes and junction boxes shall be at least 4 inches square by 2-1/8 inch deep. Provide 3 inch or deeper boxes where required for fire alarm devices.
- C. All outlet boxes shall be accurately placed and securely fastened to the structure independent of the conduit.

2.03 CONNECTORS TERMINAL LUGS AND FITTINGS

- A. All connectors shall be UL listed for the intended use.
- B. For #10 AWG and smaller conductor cable: Tin-plated copper pressure connectors with nonflammable, self-extinguishing insulation grip with temperature rating equal to that of conductor insulation.
- C. For #8 AWG to #4/0 AWG conductor cable: Tin-plated copper compression connectors and terminal lugs with nylon insulating sleeve for insulation grip.

2.04 INSULATING TAPE

- A. Plastic tape: Vinyl plastic tape with rubber-based pressure-sensitive adhesive, pliable at zero degrees F.
- B. Rubber tape: Silicone-rubber tape with silicone pressure-sensitive adhesive.
- C. Acceptable Manufacturers: Minnesota Mining and Minerals Co. (3M) #33 or an approved equal.

2.05 RIGID & EMT CONDUIT

- A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in CEC, by a qualified testing agency, and marked for intended location and application.

GRC: Comply with ANSI C80.1 and UL 6.

IMC: Comply with ANSI C80.6 and UL 1242.

EMT: Comply with ANSI C80.3 and UL 797.

FMC: Comply with UL 1; zinc-coated steel.

LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.

- B. Fittings for EMT:

Material: Steel.

Type: Compression.

- C. Joint Compound for IMC, or GRC: Approved, as defined in CEC, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.06 FLEXIBLE METALLIC CONDUIT

- A. Flexible conduit exposed to weather or located in wet or damp locations shall be the weatherproof type with an extruded polyvinyl chloride jacket, as manufactured by American Brass Company, Columbia, Anaconda or Electri-Flex Co.
- B. Use only on motor connections and fixture tails, not over 6 feet in length.

2.07 WIRE AND CABLE

- A. Furnish and install Anaconda, General Cable, General Electric, Habirshaw, Okonite, Paranite, Phelps-Dodge, Cerro, Collyer, Rome or Triangle Wire and Cable. All wire shall be delivered to the job in unbroken packages, and each package shall bear the Underwriters' and Manufacturer's labels, showing the date of manufacture and the maximum allowable voltage.

- B. Conductors shall be soft drawn annealed copper, ninety-eight (98%) percent conductivity, continuous from outlet to outlet, without welds, splices or joints.
- C. Wiring shall be stranded, copper THHN type, including all #12 AWG wire. Exception: wiring for fire alarm circuits shall be solid wire, not stranded.
- D. Provide a dedicated neutral for every one circuit pulled.

2.08 INSULATION

- A. Conductors of the follow types shall be used in the following locations:
 - 1. Indoor branch circuit and feeder cables in all sizes shall have "THHN" " 600-volt insulation unless noted otherwise.
- B. All conductors supplied under the scope of this project shall be insulated for 600 volts minimum. Wire and cable shall meet the applicable requirements of CEC and UL 83 for the type of insulation, jacket, and conductor specified or indicated. Wires and cables manufactured more than 12 months prior to date of delivery to the site shall not be used.
- C. Temperature rating: comply with CEC 110.14(C).
- D. Color-Coding of Secondary Phase Conductors: Match existing facility color code.
- E. Color-Coding of Fire Alarm Conductors: Match existing system color code.

2.09 PANELBOARDS

- A. Provide circuit breakers for existing panelboards where indicated. Circuit breakers shall match existing manufacturer, frame, type and short circuit ratings.
- B. All circuit breakers shall be fully rated to withstand the short circuit current available. Series rated breakers are not acceptable.

2.10 MARKING AND NAME PLATES

- A. Name plates minimum 1" high x 3" wide by 3/32 inch thick matte white laminated phenolic nameplates with 1/4" white characters engraved in the plastic for all items for all electrical equipment including, but not limited to, panel boards, feeder circuit breakers, time switches, disconnect switches, exposed pull or junction boxes. Name plates will be attached with 2 cadmium-plated screws.
- B. Provide wire marker on each conductor in electrical panel pull box, outlet, and junction box. If more than one neutral conductor is present, mark each related circuit and panel number.
- C. 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 limited to, the following: toggle switches and receptacles.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All work shall be in conformance with recognized practices of the National Electrical Contractors Association (NECA) NECA 1 – Standard Practices for Good Workmanship in Electrical Contracting.
 - 1. The Contractor shall perform all cutting and patching of construction work that may be required for the proper installation of the electrical work. All patching shall be of the same materials, workmanship, and finish as, and shall accurately match all surrounding work.
 - 2. All work shall be done under the Owner's instructions, and, when so required, by the trade which performed the original work.
- B. Electrical outlets, devices and equipment furnished by disciplines under the scope of this project shall be installed and fully connected to the electric circuits.
 - 1. The Contractor shall furnish the necessary flexible conduit, connectors, cords, and other equipment that may be required for the proper connection of equipment.
 - 2. The Contractor shall furnish and install conduit, wiring, and connections required by the heating ventilating and air conditioning system for line and low voltage devices as required.

3.02 LOCATIONS AND DIMENSIONS

- A. Install all material and equipment in such a manner as to avoid obstructions, preserve clearances, maintain code spacing and keep openings and passageways clear.
- B. These drawings are diagrammatic to the extent that many offsets, bends, fittings and exact locations are not shown. Determine the best methods, exact locations and routes for installation and note any conflicts or obstructions. The locations shown for conduits, outlets, materials and equipment may be refined to meet the architectural, structural and mechanical conditions with the approval of the Owner.

3.03. OUTLET BOXES

- A. Outlet boxes shall be installed for each device and light fixture. All devices shall be installed in outlet boxes sized per CEC according to the conductor fill. Where oversized boxes are necessary due to the number of conductors, the contractor shall furnish the required box size.
- B. Outlet boxes shall be independently supported to framing, ceiling slabs or other structures in an approved manner. Conduit shall not be the sole support of outlet boxes.

3.04 EQUIPMENT GROUNDING

- A. Comply with CEC and local amendments.
- B. A green insulated copper ground wire, sized per CEC shall be provided with each feeder or branch circuit of operating over 50 volts to ground. This ground wire shall be used for the grounding of all equipment.
- C. Ground conductors for branch circuit wiring shall be attached at each outlet to the back of the box using drilled and tapped holes and washer head screws, 6-32 or larger.
- E. Each panelboard, switchboard, pullbox or any other enclosure in which several ground wires are terminated shall be equipped with a ground bus secured to the interior of the enclosure. The bus ampacity shall be equal to the phase bus size and shall have a separate lug for each ground conductor. No more than one conductor shall be installed per lug.

3.05 FLEXIBLE METALLIC CONDUIT

- A. Final connections of conduit systems to all motors and direct wired vibrating equipment (including transformers) for interior and exterior locations not to exceed three (3) foot length.
- B. Light fixture connections in accessible locations (6 feet maximum).

3.06 INSTALLING WIRE

- A. All circuit and feeder wires shall be continuous from switch to terminal or farthest outlet. No joints shall be made except in pull, junction or outlet boxes, or in panel or switchboard.
- B. All branch circuit and fixture wiring joints, splices and tapes for conductors #10 and smaller shall be made with UL listed connectors listed for 600 volts. Connector bodies shall consist of a cone shape expandable coil spring insert, insulated with Teflon or plastic shell. The connectors shall be the "Wing Nut" as manufactured by "Ideal Industries" or "Scotchlok" as manufactured by Minnesota Mining Manufacturing Company.
- C. Make all connections and splices necessary to properly install and complete the work. All splices shall be taped. All connections and splices shall be electrically and mechanically perfect, and in strict accordance with all Code requirements.

END OF SECTION 260000

**MUSEUM OF MAN ADA BARRIER REMOVAL
TECHNICAL SPECIFICATIONS**

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SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Installation of the Work.
 - 2. Cutting and patching.
 - 3. Progress cleaning.
 - 4. Starting and adjusting.
 - 5. Protection of installed construction.
 - 6. Correction of the Work.

- B. Related Requirements:
 - 1. Section 024119 "Selective Structure Demolition" for demolition and removal of selected portions of the building.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Resident Engineer of locations and details of cutting and await directions from Resident Engineer before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire-suppression systems.
 - c. Mechanical systems piping and ducts.
 - d. Control systems.
 - e. Communication systems.

- f. Fire-detection and -alarm systems.
 - g. Electrical wiring systems.
3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Resident Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
- 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
- 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
- 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, notify the Resident Engineer

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Resident Engineer promptly.
- B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

3.4 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm

that adequate provisions are made for locating and installing products to comply with indicated requirements.

- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Resident Engineer.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.5 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements.
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

- G. **Cutting:** Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. **Finished Surfaces:** Cut or drill from the exposed or finished side into concealed surfaces.
 3. **Concrete and Masonry:** Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. **Excavating and Backfilling:** Comply with requirements in applicable Sections where required by cutting and patching operations.
 5. **Mechanical and Electrical Services:** Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- H. **Patching:** Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. **Inspection:** Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. **Exposed Finishes:** Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. **Floors and Walls:** Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 4. **Ceilings:** Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

END OF SECTION 017300

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Salvage of existing items to be reused or recycled.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for cutting and patching procedures.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for dust control and for noise control. Indicate proposed locations and construction of barriers.

- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's and other tenants' on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- D. Predemolition Photographs or Video: Submit before Work begins.

1.5 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Resident Engineer of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Resident Engineer and Owner. Hazardous materials will be removed by Owner under a separate contract.
- D. Historic Areas: Demolition and hauling equipment and other materials shall be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, including temporary protection, by 12 inches or more.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Resident Engineer.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or preconstruction videotapes.
 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Arrange to shut off indicated utilities with utility companies.
2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling as needed.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Dispose of demolished items and materials promptly.
- B. Work in Historic Areas: Selective demolition may be performed only in areas of the Project that are not designated as historic. Confirm with Resident Engineer the removal of any building elements that may be considered Historic.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Resident Engineer.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Resident Engineer, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 4. Comply with requirements specified in City of San Diego "Whitebook."
- B. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 055210 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Steel pipe and tube handrails and railings.

1.2 SUBMITTALS

- A. Shop Drawings: Show fabrication and installation of handrails and railings. Include plans, elevations, sections, component details, and attachments to other Work.

1.3 STORAGE

- A. Store handrails and railings in a dry, well-ventilated, weathertight place.

1.4 PROJECT CONDITIONS

- A. **Field Measurements: Verify handrail and railing dimensions by field measurements before** fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.5 COORDINATION

- A. Coordinate installation of anchorages for handrails and railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 METALS

- A. General: Provide metal free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units.
- B. Steel and Iron: Provide steel and iron in the form indicated, complying with the following requirements:
 - 1. Steel Pipe: ASTM A 53; finish, type, and weight class as follows:
 - a. Galvanized finish.
 - b. Type F, or Type S, Grade A, standard weight (Schedule 40), unless another grade and weight are required by structural loads.
 - 2. Steel Tubing: Cold-formed steel tubing, ASTM A 500, Grade A, unless another grade is required by structural loads.

3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.2 WELDING MATERIALS, FASTENERS, AND ANCHORS

- A. Welding Electrodes and Filler Metal: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- B. Fasteners for Anchoring Handrails and Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring handrails and railings to other types of construction indicated and capable of withstanding design loads.
 1. For steel handrails, railings, and fittings, use plated fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.
- C. Cast-in-Place and Postinstalled Anchors: Anchors of type indicated below, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
 1. Cast-in-place anchors.
 2. Expansion anchors.

2.3 ANCHORING CEMENT

- A. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.4 FABRICATION

- A. General: Fabricate handrails and railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Assemble handrails and railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Form changes in direction of railing members as follows:
 1. As detailed.
 2. By radius bends of radius indicated.

3. By flush radius bends.
 4. By any method indicated above, applicable to change in direction involved.
- D. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
- E. Welded Connections: Fabricate handrails and railings for connecting members by welding. Cope components at perpendicular and skew connections to provide close fit, or use fittings designed for this purpose. Weld connections continuously to comply with the following:
1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove flux immediately.
 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- F. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect handrail and railing members to other work, unless otherwise indicated.
- G. Provide inserts and other anchorage devices for connecting handrails and railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by handrails and railings. Coordinate anchorage devices with supporting structure.
- H. For railing posts set in concrete, provide preset sleeves of steel not less than 6 inches long with inside dimensions not less than 1/2 inch greater than outside dimensions of post, and steel plate forming bottom closure.
- I. Shear and punch metals cleanly and accurately. Remove burrs from exposed cut edges.
- J. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing the Work.
- K. Cut, reinforce, drill, and tap components, as indicated, to receive finish hardware, screws, and similar items.
- L. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members that are exposed to exterior or to moisture from condensation or other sources.
- M. Fabricate joints that will be exposed to weather in a watertight manner.
- N. Close exposed ends of handrail and railing members with prefabricated end fittings.

- O. Fillers: Provide fillers made from steel plate, or other suitably crush-resistant material, where needed to transfer wall bracket loads through wall finishes to structural supports. Size fillers to suit wall finish thicknesses and to produce adequate bearing area to prevent bracket rotation and overstressing of substrate.

2.5 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

2.6 STEEL FINISHES

- A. Galvanized Handrails and Railings: Hot-dip galvanize steel and iron handrails and railings to comply with ASTM A 123. Hot-dip galvanize hardware to comply with ASTM A 153/A 153M.
- B. Fill vent and drain holes that will be exposed in finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.
- C. For galvanized handrails and railings, provide galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required to install handrails and railings. Set handrails and railings accurately in location, alignment, and elevation; measured from established lines and levels and free from rack.
 - 1. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 - 2. Align rails so variations from level for horizontal members and from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Adjust handrails and railings before anchoring to ensure matching alignment at abutting joints. Space posts at interval indicated, but not less than that required by structural loads.
- D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing handrails and railings and for properly transferring loads to in-place construction.

3.2 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches of post.

3.3 ANCHORING POSTS

- A. Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with the following anchoring material, mixed and placed to comply with anchoring material manufacturer's written instructions:
 - 1. Anchoring cement.
- B. Leave anchorage joint exposed; wipe off surplus anchoring material; and leave 1/8-inch build-up, sloped away from post.
- C. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For steel pipe railings, weld flanges to post and bolt to metal supporting surfaces.

3.4 ANCHORING RAILING ENDS

- A. Anchor railing ends into concrete and masonry with round flanges connected to railing ends and anchored into wall construction with postinstalled anchors and bolts.
- B. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces.
 - 1. Weld flanges to railing ends.

3.5 CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION 055210

SECTION 057300 - DECORATIVE METAL RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Steel and iron decorative railings.
- B. Related Requirements:
 - 1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking for anchoring railings.

1.2 DEFINITIONS

- A. Railings: Guards, handrails, and similar devices used for protection of occupants at open-sided floor areas and for pedestrian guidance and support, visual separation, or wall protection.

1.3 COORDINATION AND SCHEDULING

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written instructions to ensure that shop primers and topcoats are compatible.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not meet structural performance requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Manufacturer's product lines of railings assembled from standard components.
 - 2. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, and attachment details.
- C. Samples for Initial Selection: For products involving selection of color, texture, or design, including mechanical finishes.

1.5 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.
 - 1. Build mockups as shown on Drawings.
 - 2. Build mockups for each form and finish of railing consisting of two posts, top rail, infill area, and anchorage system components that are full height and are not less than 24 inches in length.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Steel and Iron Decorative Railings:
 - 1. Manufacturers (or approved equal): Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Blum, Julius & Co., Inc.
 - b. J. G. Braun Company.
 - c. King Architectural Metals.
 - d. Indital USA.
 - e. Livers Bronze Co.
 - f. Olin Wrought Iron.
 - g. R & B Wagner, Inc.
 - h. Regency Railings.
 - i. Wiemann Metalcraft.
- B. Source Limitations: Obtain each type of railing from single source from single manufacturer.
- C. Product Options: Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods, including structural analysis, preconstruction testing, field testing, and in-service performance.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
 1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft..
 - b. Infill load and other loads need not be assumed to act concurrently.

2.3 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Same metal and finish as supported rails unless otherwise indicated.
 1. Provide either formed- or cast-metal brackets with predrilled hole for exposed bolt anchorage.
 2. Provide formed-steel brackets with predrilled hole for bolted anchorage and with snap-on cover that matches rail finish and conceals bracket base and bolt head.

2.4 STEEL AND IRON

- A. Tubing: ASTM A 500/A 500M (cold formed) or ASTM A 513.
- B. Bars: Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.
- C. Plates, Shapes, and Bars: ASTM A 36/A 36M.
- D. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

2.5 FASTENERS

- A. Fastener Materials: Unless otherwise indicated, provide the following:
 1. Uncoated Steel Components: Plated-steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating where concealed; Type 304 stainless-steel fasteners where exposed.

2. Galvanized-Steel Components: Plated-steel fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.
 3. Dissimilar Metals: Type 304 stainless-steel fasteners.
- B. Fasteners for Anchoring to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated.
- C. Provide concealed fasteners for interconnecting railing components and for attaching railings to other work unless exposed fasteners are the standard fastening method for railings indicated.
1. Provide square or hex socket flat-head machine screws for exposed fasteners unless otherwise indicated.
- D. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193 or ICC-ES AC308.
1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
 2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.6 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- B. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- C. Shop Primer for Galvanized Steel: Cementitious galvanized metal primer complying with MPI#26.
- D. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
1. Water-Resistant Product: At exterior locations provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.7 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations.

Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate. Locate weep holes in inconspicuous locations.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds; no evidence of a welded joint.
- I. Mechanical Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 - 1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.
- J. Form changes in direction as follows:
 - 1. By bending to smallest radius that will not result in distortion of railing member.
- K. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- L. Close exposed ends of hollow railing members with prefabricated end fittings.
- M. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns, unless clearance between end of rail and wall is 1/4 inch or less.
- N. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.8 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" recommendations for applying and designating finishes.
- B. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.9 STEEL AND IRON FINISHES

- A. Galvanized Railings:
 - 1. Hot-dip galvanize exterior steel and iron railings, including hardware, after fabrication.
 - 2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
 - 3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.
 - 4. Do not quench or apply post-galvanizing treatments that might interfere with paint adhesion.
 - 5. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.
- B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.
- C. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.
- D. For nongalvanized-steel railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, but galvanize anchors to be embedded in exterior concrete or masonry.
- E. Preparing Nongalvanized Items for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- F. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.
- G. Powder-Coat Finish: Prepare, treat, and coat nongalvanized ferrous metal to comply with resin manufacturer's written instructions and as follows:
 - 1. Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2. Treat prepared metal with iron-phosphate pretreatment, rinse, and seal surfaces.
 - 3. Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils.
 - 4. Color: As selected by Architect from manufacturer's full range.
- H. Powder-Coat Finish: Prepare, treat, and coat galvanized metal to comply with resin manufacturer's written instructions and as follows:

1. Prepare galvanized metal by thoroughly removing grease, dirt, oil, flux, and other foreign matter.
2. Treat prepared metal with zinc-phosphate pretreatment, rinse, and seal surfaces.
3. Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils.
4. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.2 RAILING CONNECTIONS

- A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.
- B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

3.3 ANCHORING POSTS

- A. Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions.

- B. Cover anchorage joint with flange of same metal as post, welded to post after placing anchoring material.
- C. Anchor posts to metal surfaces with flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members as follows:
 - 1. For steel railings, weld flanges to posts and bolt to metal-supporting surfaces.

3.4 ATTACHING RAILINGS

- A. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and connected to railing ends using nonwelded connections.
- B. Attach handrails to walls with wall brackets. Provide brackets with 1-1/2-inch clearance from inside face of handrail and finished wall surface. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
 - 1. Use type of bracket with flange tapped for concealed anchorage to threaded hanger bolt.
 - 2. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

3.5 CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

3.6 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 057300

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wood blocking and nailers.
 - 2. Wood furring.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

2.2 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Furring.
- B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber and the following species:
 - 1. Douglas –fir/larch (north);.
- C. For concealed boards, provide lumber with 15 percent maximum moisture content and the following species and grades:
 - 1. Douglas –fir/larch (north);.
- D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.3 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Screws for Fastening to Metal Framing: **ASTM C 1002**, length as recommended by screw manufacturer for material being fastened.
- F. Lag Bolts: ASME B18.2.1.
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
- H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.

2.4 MISCELLANEOUS MATERIALS

- A. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

- C. Do not splice structural members between supports unless otherwise indicated.
- D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- E. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- G. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD GROUND, SLEEPER, BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

3.3 PROTECTION

- A. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 084213 - ALUMINUM-FRAMED ENTRANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Exterior manual-swing entrance doors and door-frame units.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For aluminum-framed entrances. Include plans, elevations, sections, full-size details, and attachments to other work.
 - 1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
 - 2. Include full-size isometric details of each vertical-to-horizontal intersection of aluminum-framed entrances, showing the following:
 - a. Joinery, including concealed welds.
 - b. Anchorage.
 - c. Expansion provisions.
 - d. Glazing.
 - e. Flashing and drainage.
 - 3. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
- C. Samples for Initial Selection: For units with factory-applied color finishes.
- D. Entrance Door Hardware Schedule: Prepared by or under supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For aluminum-framed entrances.
- B. Sample Warranties: For special warranties.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For aluminum-framed entrances to include in maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 10 years from date of Substantial Completion.
- B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Structural: Test according to ASTM E 330 as follows:
 - 1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
 - 2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
 - 3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

- C. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:
 - 1. Entrance Doors:
 - a. Pair of Doors: Maximum air leakage of 1.0 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft..

2.2 MANUFACTURERS (or approved equal)

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Special-Lite SL-14 monumental aluminum stile and rail doors and frame or comparable product by one of the following:
 - 1. Kawneer North America.
 - 2. Oldcastle BuildingEnvelope.

2.3 MONUMENTAL STILE AND RAIL DOORS

- A. Model: SL-14 medium stile monumental aluminum stile and rail doors.
- B. Door Opening Size As indicated on the Drawings.
- C. Door Thickness: 1-3/4 inches.
- D. Stiles and Rails:
 - 1. Material: Aluminum extrusions made from prime-equivalent billet that is produced from 100% reprocessed 6063-T6 alloy recovered from industrial processes, 0.125-inch minimum wall thickness, 1-piece.
 - 2. Stile Width: 3-1/2 inches.
 - 3. Rail Width:
 - a. Top: 6-1/2 inches.
 - b. Bottom: 10 inches.
- E. Corners:
 - 1. True mortise and tenon joints.
 - 2. Full-width 3/8-inch diameter galvanized steel tie rods secured with locking hex nuts.
- F. Welding of Joints: Not permitted.
- G. Mid Panel:
 - 1. Model: SL-484.
 - 2. Height: 12 inches.
 - 3. Frame: Aluminum extrusions with extruded spline and interlocking edges to secure face sheets.
 - 4. Core: Poured-in-place urethane, minimum 5 pounds per cubic foot density.

5. Fasten with mortise and tenon joints and two 3/8-inch diameter galvanized steel tie rods with locking hex nuts.
6. Face Sheet: Smooth Anodized Aluminum

2.3 ENTRANCE DOOR HARDWARE

- A. General: Provide entrance door hardware for each entrance door to comply with requirements in this Section.
 1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products complying with BHMA standard referenced.
 2. Opening-Force Requirements:
 - a. Egress Doors: Not more than 15 lbf to release the latch and not more than 30 lbf to set the door in motion.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of entrance door hardware are indicated in "Entrance Door Hardware Sets" Article. Products are identified by using entrance door hardware designations as follows:
 1. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.
- C. Hinges: Full Mortise Aluminum Continuous Geared Hinges
 1. Select Hinges SL-11HD or approved equal
- D. Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
 1. Precision 2600 Narrow Stile Exit device:
 2. No Substitution, City of San Diego Standard
- E. Cylinders: BHMA A156.5, Grade 1.
 1. Keying: Master key system. Permanently inscribe each key with a visual key control number and include notation "DO NOT DUPLICATE". Keying is to tie into existing building keying system.
 2. Best Access Co. Standard Keyway.
 3. No Substitution, City of San Diego Standard
- F. Door Pulls
 1. Special-lite SL-88 recessed ADA compliant pulls.
- G. Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to comply with field conditions and requirements for opening force.

1. Stanley D4550 S , Norton 7500 S, Sargent 351S or approved equal
- H. Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.
- I. Weather Stripping:
1. Adjustable Astragal By Door Manufacturer
- J. Weather Sweeps:
1. Special-Lite SL-301 adjustable door sweeps.
- K. Silencers: BHMA A156.16, Grade 1.

2.4 GLAZING

- A. Glazing: Factory glazing with 1-inch insulating glass units.
- B. Glazing Gaskets: Manufacturer's standard flush glazing system of recessed channels and captive glazing gaskets or applied stops.
- C. Glazing Sealants: As recommended by manufacturer.
- D. Allow for thermal expansion on exterior units.

2.5 ALUMINUM FINISHES

- A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
1. Color: Dark bronze.
 2. Color: Match existing adjacent aluminum door frame.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General:
1. Comply with manufacturer's written instructions.
 2. Do not install damaged components.
 3. Fit joints to produce hairline joints free of burrs and distortion.
 4. Rigidly secure nonmovement joints.

5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
 6. Seal perimeter and other joints watertight unless otherwise indicated.
- B. METAL PROTECTION:
1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or installing nonconductive spacers.
 2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
- C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint Sealants" to produce weathertight installation.
- D. Install components plumb and true in alignment with established lines and grades.
- E. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.
1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.

END OF SECTION 084213

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following interior substrates:
1. Gypsum board.
 2. Steel.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of topcoat product indicated requiring color selection.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
1. Submit Samples on rigid backing, 8 inches square.
 2. Step coats on Samples to show each coat required for system.
 3. Label each coat of each Sample.
 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

1.3 QUALITY ASSURANCE

- A. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Resident Engineer will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft.
 - b. Other Items: Resident Engineer will designate items or areas required.
 2. Apply benchmark samples after permanent lighting and other environmental services have been activated.
 3. Final approval of color selections will be based on benchmark samples.

- a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.5 PROJECT CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. Colors: Match Architect's samples.

2.2 MANUFACTURERS

- A. Manufacturers (or approved equal): Subject to compliance with requirements, provide products from the following:
 - 1. Dunn-Edwards Corporation.
Frazee Paint.

2. ICI Paints.
3. Sherwin-Williams Company (The).
4. Vista Paint.

2.3 PRIMERS/SEALERS

A. Interior Primer/Sealer for Gypsum Board:

1. Dunn Edwards W101 Vinylastic
2. Frazee 061 Aquaseal
3. ICI 1000 Primer Sealer
4. SW Prep Rite Primer B28W200
5. Vista 1100 Hi Build Sealer
6. Or approved equal

B. Galvanized and Non-Ferrous Metal Waterborne Primer (galvanized metal shall be washed with manufacturer's recommended solution and rinsed before priming):

1. Dunn Edwards W715 Ultragrip
2. Frazee 561 Acrylic Metal Primer
3. ICI Devflex 4020
4. SW B66W1 DTM Acrylic Primer
5. Vista 4500 Galva Poxo
6. Or approve equal

2.4 INTERIOR PAINT TOPCOATS

A. Interior Acrylic Latex Semigloss

1. Dunn Edwards W901V Permasheen
2. Frazee 124 Mirroglide Semigloss
3. ICI Dulux Ultra 1407
4. SW ProClassic B31 Series
5. Vista 8400 Carefree
6. Or approved equal

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Gypsum Board: 12 percent.

- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Do not paint mechanical and electrical work. Do not paint exposed ducts, pipes, conduits or cable trays. Do not paint items with factory finishes except items that have been factory-primed.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Resident Engineer, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

- A. Gypsum Board Substrates:
 - 1. Latex System:
 - a. Prime Coat: Interior latex primer/sealer.
 - b. Intermediate Coat: Interior latex matching topcoat.
 - c. Topcoat: Interior latex, semigloss.
- B. Galvanized and Non Ferrous Metal Substrates where indicated to be painted:
 - 1. Latex System:
 - a. Prime Coat: Galvanized-metal primer.
 - b. Intermediate Coat: Interior latex matching topcoat.
 - c. Topcoat: Interior latex (semigloss).

END OF SECTION 099123

SECTION 101400 - SIGNS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following types of signs:

1. Panel signs.

1.2 SUBMITTALS

A. General: Submit the following according to the Conditions of the Contract.

B. Product data for each type of sign specified, including details of construction relative to materials, dimensions of individual components, profiles, and finishes.

C. Shop drawings showing fabrication and erection of signs. Include plans, elevations, and large-scale sections of typical members and other components. Show anchors, grounds, layout, reinforcement, accessories, and installation details.

1. Provide message list for each sign required, including large-scale details of wording and lettering layout.
2. Furnish full-size rubbings for metal plaques.

D. Samples: Provide the following samples of each sign component for initial selection of color, pattern and surface texture as required and for verification of compliance with requirements indicated.

1. Samples for selection of color, pattern, and texture:

- a. Cast Acrylic Sheet: Manufacturer's color charts consisting of actual sections of material including the full range of colors available for each material required.

1.3 QUALITY ASSURANCE

A. Single-Source Responsibility: For each separate sign type required, obtain signs from one source of a single manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers (or approved equal): Subject to compliance with requirements, provide products by one of the following:

1. Manufacturers of Panel Signs:
 - a. Andco Industries Corp.

- b. ASI Sign Systems, Inc.
 - c. Best Manufacturing Company.
 - d. Mohawk Sign Systems.
 - e. Poblocki & Sons, Inc.
 - f. Spanjer Brothers, Inc.
 - g. The Supersine Company.
2. Vomar Products, Inc.

2.2 MATERIALS

- A. Cast Acrylic Sheet: Provide cast (not extruded or continuous cast) methyl methacrylate monomer plastic sheet, in sizes and thicknesses indicated, with a minimum flexural strength of 16,000 psi when tested according to ASTM D 790, with a minimum allowable continuous service temperature of 176 deg F (80 deg C), and of the following general types:
- 1. Opaque Sheet: Provide colored opaque acrylic sheet in colors and finishes as selected from the manufacturer's standards.
- B. Fasteners: Use concealed fasteners fabricated from metals that are not corrosive to the sign material and mounting surface.
- C. Anchors and Inserts: Use nonferrous metal or hot-dipped galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.
- D. Colored Coatings for Acrylic Plastic Sheet: Use colored coatings, including inks and paints for copy and background colors, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and are nonfading for the application intended.

2.3 PANEL SIGNS

- A. Panel Signs: Comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.
- 1. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally.
- B. Unframed Panel Signs: Fabricate signs with edges mechanically and smoothly finished to conform with the following requirements:
- 1. Edge Condition: Beveled.
 - 2. Corner Condition: Corners rounded to 3/8 inch radius.
- C. Graphic Content and Style: Provide sign copy that complies with the requirements indicated for size, style, spacing, content, position, material, finishes, and colors of letters, numbers, and other graphic devices.

- D. **Raised Copy:** Machine-cut copy characters from matte-finished opaque acrylic sheet and chemically weld onto the acrylic sheet forming sign panel face. Produce precisely formed characters with square cut edges free from burrs and cut marks.
1. **Panel Material:** Matte-finished opaque acrylic sheet.
 2. **Raised Copy Thickness:** Not less than 1/32 inch.
 3. **Braille Symbols:** Contracted Grade 2 Braille shall be used wherever Braille symbols are required. Dots shall be 1/10 inch on centers in each cell with 2/10 inch space between cells. Dots shall be raised a minimum of 1/40 inch above the background.

2.4 FINISHES

- A. **Colors and Surface Textures:** For exposed sign material that requires selection of materials with integral or applied colors, surface textures or other characteristics related to appearance, provide color matches indicated, or if not indicated, as selected by the Architect from the manufacturer's standards.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. **General:** Locate sign units and accessories where indicated, using mounting methods of the type described and in compliance with the manufacturer's instructions.
1. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.
- B. **Wall-Mounted Panel Signs:** Attach panel signs to wall surfaces using both methods indicated below:
1. **Mechanical and Adhesive Mounting:** Use liquid silicone adhesive recommended by the sign manufacturer to attach sign units. Provide predrilled and countersunk holes. Attach the panel signs with fasteners and anchors suitable for secure attachment to the substrate.

3.2 CLEANING AND PROTECTION

- A. After installation, clean soiled sign surfaces according to the manufacturer's instructions. Protect units from damage until acceptance by the Resident Engineer.

END OF SECTION 101400

SECTION 124813 - ENTRANCE FLOOR MATS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Resilient-tile entrance mats.
 - 2. Surface-mounted frames.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for floor mats and frames.
- B. Samples: For the following products, in manufacturer's standard sizes:
 - 1. Floor Mat: Assembled sections of floor mat.
 - 2. Frame Members: Sample of each type and color.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For floor mats and frames to include in maintenance manuals.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Resilient-Tile Entrance Mats: Full-size tile units, no fewer than 4 units.

PART 2 - PRODUCTS

2.1 RESILIENT-TILE ENTRANCE MATS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide **the product indicated on Drawings** or a comparable product by one of the following:
 - 1. American Floor Products Company, Inc.
 - 2. American Mat & Rubber Company.
 - 3. Cactus Mat Mfg. Co.
 - 4. Consolidated Plastics Company, Inc.
 - 5. Durable Corporation.
 - 6. Flexco.
 - 7. Mats Inc.
 - 8. Musson Rubber Company.
 - 9. Pawling Corporation; Architectural Products Division.

- B. Carpet-Type Tiles: Polypropylene carpet bonded to 1/8- to 1/4-inch- thick, flexible vinyl backing to form mats 3/8 or 7/16 inch thick with nonraveling edges.
 - 1. Colors, Textures, and Patterns: As selected by Architect from full range of industry colors.
 - 2. Tile Size: 20" X 20" (nominal).

2.2 FRAMES

- A. Surface-Mounted Frames:
 - 1. Tapered Frames: Tapered aluminum frame members with profile as indicated on drawings, not less than 1-1/2 inches wide, attached to mat at all four edges, with welded mitered corners.
 - a. Aluminum Color: As selected by Architect from full range of industry colors and color densities.

2.3 FABRICATION

- A. Floor Mats: Shop fabricate units to greatest extent possible in sizes indicated. Unless otherwise indicated, provide single unit for each mat installation; do not exceed manufacturer's recommended maximum sizes for units that are removed for maintenance and cleaning. Where joints in mats are necessary, space symmetrically and away from normal traffic lanes. Miter corner joints in framing elements with hairline joints or provide prefabricated corner units without joints.
- B. Surface-Mounted Frames: As indicated for permanent surface-mounted installation, complete with corner connectors, splice plates or connecting pins, and postinstalled expansion anchors.
- C. Coat concealed surfaces of aluminum frames that contact cementitious material with manufacturer's standard protective coating.

2.4 ALUMINUM FINISHES

- A. Color Anodic Finish: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and floor conditions for compliance with requirements for location, sizes, and other conditions affecting installation of floor mats and frames.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install surface-type units to comply with manufacturer's written instructions at locations indicated; coordinate with entrance locations and traffic patterns.
 - 1. Anchor fixed surface-type frame members to floor with devices spaced as recommended by manufacturer.

3.3 PROTECTION

- A. After completing frame installation and concrete work, provide temporary filler of plywood or fiberboard in recesses and cover frames with plywood protective flooring. Maintain protection until construction traffic has ended and Project is near Substantial Completion.

END OF SECTION 124813

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplementary Conditions, and Division 01, are a part of this section and the contract for this work and apply to this section as fully as if repeated herein.

1.2 SUBMITTALS

- A. Submit a minimum of six copies of shop drawings for all products. All submittal sheets shall be clearly marked or highlighted showing conformance to specifications and schedule. All submittals shall be cross referenced to the requirements of each specification paragraph pertaining to the item being submitted. All requirements must be shown on manufacturer's literature. Manufacturer's representative's letterhead, or superimposed notations, are not acceptable. This requirement pertains to all sections of Division 22. No exceptions. Submittals not so marked will be subject to rejection.

1.3 CODES AND STANDARDS

- A. All work and materials shall be in full accordance with the latest rules and regulations of the State Fire Marshal, the Safety Orders of the Division of Industrial Safety, the California Building Code, the California Mechanical Code, the California Plumbing Code the California Electrical Code, Local Building Codes, and other applicable codes, laws or regulations of bodies lawfully empowered and having jurisdiction over this project. Nothing in the plans or specifications is to be construed to permit work not conforming to these codes.

1.4 SEISMIC ANCHORAGE AND BRACING

- A. All equipment and piping shall be anchored or braced in accordance with the California Building Code. The contractor is responsible for providing anchorage or bracing for all equipment regardless of whether detailed or shown on the plans. All equipment and ductwork supports not detailed as shown on the plans, requires approval of a registered structural engineer.
- B. All piping shall be supported or braced in accordance with the SHL-A "Seismic Restraint Manual: Guideline for Mechanical Systems" latest approved edition, Superstrut "Seismic Restraint System", Unistrut Corp. "Seismic Bracing For Ductwork, Conduit, and Cable Tray Supports", or B-Line "Seismic Restraints." If the pipe size exceeds the size included in these manuals, custom designed supports are required. All custom supports require the approval of a registered Structural Engineer. All shop drawings and calculations shall be submitted prior to fabrication.
- C. All flexibly mounted equipment shall be provided with seismic vibration isolation devices designed in accordance with the California Building Code. All anchors and equipment connections shall be submitted. All seismic vibration isolation devices shall

be submitted with structural calculations signed by a Registered Structural Engineer in the State of California.

1.5 PERMITS

- A. The Contractor shall obtain all permits, patent rights, and licenses that are required for the performance of his work by all laws, ordinances, rules and regulations or orders of any officer and/or body, shall give all notices necessary in connection therewith, and pay all fees relating thereto and all costs and expenses incurred on account thereof. No work shall be covered before inspection by the jurisdictional inspector and the Resident Engineer.
- B. Contractor shall apply for and pay for all cost for the installation of water and gas meters, and for connection to gas, water, and sewer mains.

1.6 CUTTING AND PATCHING

- A. Perform all cutting and fitting required for work of this section in rough construction of the building.
- B. All patching of finished construction of building shall be performed under the sections of specifications covering these materials.
- C. All cutting of concrete work by this Contractor shall be by core drilling or concrete saw. No cutting or coring shall be done without first obtaining the permission of the Resident Engineer.

1.7 GENERAL

- A. Unless otherwise specified herein, all equipment and fixtures shall be installed in accordance with the manufacturer's recommendations.
- B. Before submitting his bid, the Contractor for the work under this section shall carefully study all drawings, and shall make a careful examination of the premises. He shall definitely determine in advance, the methods of installing and connecting the apparatus, the means to be provided for getting any equipment into place, and shall make himself thoroughly familiar with all the requirements of the contract. After award of the contract, no subsequent allowances will be made to the Contractor due to his failure to comply with the above requirements and any other conditions affecting the installation and completion of all work.
- C. Workmanship: All labor shall be carefully skilled for this kind of work, thorough and first class in all respects and under the direction of a competent foreman.
- D. Special Note: Any work called for on plans shall be installed whether or not mentioned in these specifications.

1.8 VERIFICATION OF LEAD CONTENT IN PLUMBING PRODUCTS

- A. Comply with California Health and Safety Code 116875 (AB 1953-2006) Lead Content in Plumbing Products for valves and fittings. All valves 2" and smaller and all fittings 2"

and smaller for installation in the domestic water system, whether serving a fixture providing domestic water for human consumption or serving a fixture providing domestic water to a fixture not normally considered as for use for human consumption shall be provided with valve and fittings that have been verified by an independent evaluation service as meeting the requirements of the California Health and Safety Code 116875 (AB 1953-2006). When valves or fittings larger than 2” are required and verified products are available from the specified manufacturer(s), verified valves and fittings shall be submitted for approval and provided, as approved.

- B. Comply with California Health and Safety Code 116875 (AB 1953-2006) Lead Content in Plumbing Products for piping specialties installed in the domestic water system whether serving a fixture providing domestic water for human consumption or serving a fixture providing domestic water to a fixture not normally considered as for use for human consumption shall have been verified by an independent evaluation service as meeting the requirements of the California Health and Safety Code 116875 (AB 1953-2006). When piping specialty item larger than 2” is required, and a verified product is available from the specified manufacturer(s), the verified plumbing specialty item shall be submitted for approval and provided, as approved.

1.9 DAMAGE BY LEAKS

- A. This Contractor shall be responsible for damage to the grounds, walks, roads, buildings, piping systems, electrical systems and their equipment and contents, caused by leaks in the piping systems being installed or having been installed herein. He shall repair at his expense all damage so caused. All repair work shall be done as directed by the Resident Engineer.

1.10 EMERGENCY REPAIRS

- A. The Owner reserves the right to make emergency repairs as required to keep equipment in operation without voiding the Contractor's guarantee bond nor relieving the Contractor of his responsibilities.

1.11 EXPLANATION AND PRECEDENCE OF DRAWINGS

- A. For purposes of clearness and legibility, drawings are essentially diagrammatic, and, although size and location of equipment are drawn to scale wherever possible, Contractor shall make use of all data in all the contract documents and shall verify this information at building site.
- B. The drawings indicate required size and points of termination of pipes, and suggest proper routes to conform to structure, avoid obstructions and preserve clearances. However, it is not intended that drawings indicate all necessary offsets, and it shall be the work of the Contractor to make the installation in such a manner as to conform to structure, avoid obstructions, preserve headroom and keep openings and passageways clear, without further instructions or cost to the Owner.
- C. It is intended that all apparatus be located symmetrical with architectural elements. Refer to architectural details in completing the correlating work.

- D. The contractor shall be fully informed regarding any and all peculiarities and limitations of the spaces available for the installation of all work and materials furnished and installed under the contract. The contractor shall exercise due and particular caution to determine that all parts of his work are made quickly and easily accessible.
- E. The Contractor shall study all drawings and specifications to determine any conflict with ordinances and statutes. Any errors or omissions shall be reported, and any changes shall be shown in the as-built drawings and the additional work performed at no cost to the Owner.
- F. Submittal of bid shall indicate the Contractor has examined the site and drawings and has included all required allowances in his bid. No allowance shall be made for any error resulting from Contractor's failure to visit job site and to review drawings, and bid shall include costs for all required drawings and changes as outlined above, all at no cost to Owner.

1.12 SUPERVISION AND COOPERATION

- A. This Contractor shall include the services of experienced superintendents for each sub-section who shall be constantly in charge of the work, together with the qualified journeymen, helpers and laborers, required to properly unload, install, connect, adjust, start, operate and test the work involved, including equipment and materials furnished by others and by the Owner.
- B. The work under this section shall be executed in cooperation with the work of other trades to prevent conflict or interference and to aid rapid completion of the overall project.

1.13 OPERATION

- A. The Owner may require operation of parts or all of the installation for beneficial occupancy prior to final acceptance. Refer to General Conditions of the Contract.
- B. Cost of utilities for such operation shall be paid by the Owner. Said operation shall not be construed as acceptance of the work.

1.14 UTILITY SERVICES DURING CONSTRUCTION

- A. All water and electric power used for construction shall be paid for by the Contractor.

1.15 COORDINATION

- A. Coordinate layout and installation of piping and suspension system components with other construction, including light fixtures, HVAC ductwork / equipment, electrical conduit, fire suppression system components, and partition assemblies.
- B. Coordinate pipe sleeve installations for foundations wall penetrations.
- C. Coordinate installation of pipe sleeves for penetrations through exterior walls and floor assemblies.

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND PANELS:

- A. Wherever valves, air vents, or other items or parts of the installation which require periodic inspection or adjustment are concealed by permanent non-removable construction, an access door or panel shall be provided. Installation of access doors to be coordinated by general contractor. Types to be submitted and approved for the surface, and construction in which it is installed. Access door to be manufactured by Mifab, Inc., or approved equal, and be Series CAD or UA, or series MFRU for fire rated walls.

PART 3 - EXECUTION

3.1 INSTALLATION OF PLUMBING SYSTEMS

- A. No holes for pipe or equipment will be allowed in any structural members without written consent of the Resident Engineer. Where pipes are to pass through or interfere with any member, or where notching, boring or cutting of the structure is necessary, the work shall be done by the Contractor as directed by the Resident Engineer.
- B. The Contractor shall, at a time in advance of the work, coordinate with other disciplines as to his requirements for openings, recesses, and chases in the walls, partitions, or framing. Should furnishing this information be neglected, delayed, or incorrect and additional cutting is found to be required, the costs of same shall be charged to the Contractor.
- C. Sleeves through foundation walls shall be standard weight black steel pipe, flush with walls and two pipe sizes larger than the pipe passing through. Sleeves shall be caulked with oakum to within 1" of the wall lines and then completely filled with an approved bitumastic compound. Sleeves for piping through masonry wall above grade or floor or through floors shall be #10 gauge galvanized sheet steel and shall extend completely through the walls, or floor finishing flush on both sides. Sleeves shall be 1/2" larger than the pipe passing through with oakum caulking to make opening airtight. Sleeves through concrete firewalls or floors shall be packed with suitable non-combustible material. Provide and install polished chromium plate brass floor ceiling on wall plates for all pipes, exposed in finished portions of the buildings.
- D. All scaled and figured dimensions are approximate and are given for estimate purposes only. Before proceeding with any work, this Contractor shall carefully check and verify all dimensions, sizes, etc., and shall assume full responsibility for the installation with respect to other parts of the equipment, and to the structure.
- E. Any minor changes in work, which has not been installed, shall be made by this Contractor without additional compensation, except changes that are caused by architectural revisions that increase or decrease the size of the materials specified or indicated on the drawings.
- F. This Contractor shall submit an estimate of the cost of or credit for such changes he does not consider of a minor nature and shall proceed only upon the written authority of the Resident Engineer.

- G. Coordinate all sanitary vents through roof with HVAC equipment. Terminate all vents at least 10'-0" from any outside air intakes.
- H. Pipes Over Electrical Equipment: Where pipe joints or valves in pipes conveying water occur within 3' in a horizontal direction, of electrical panels and electronic equipment, provide a drip pan of galvanized steel construction of a size which will afford maximum protection.
 - 1. Pans: 24 gauge, edges turned up 2-1/2" all sides, reinforced with galvanized steel angles or by rolling edge over 1/4" diameter steel rod.
 - 2. Provide drain with 3/4" brass flange and copper pipe to floor.
 - 3. Support the pan with bars or angles, brace to prevent sagging or swaying.
- I. Install chrome plated split escutcheons around all pipes passing through finished walls, floors and ceilings.

3.2 TESTS AND ADJUSTMENTS

- A. No piping work, fixtures, or equipment shall be concealed or covered until inspected and approved by the Engineer, who shall be notified when the work is ready for inspection. All work shall be completely installed, tested as required by this section and the State Ordinances and State Safety Orders, and shall be leak-tight before inspection is requested. All tests shall be repeated upon request to the satisfaction of those making the inspection.
- B. Disinfection of the potable water system prior to use shall meet the requirements of the California Plumbing Code section 609.9. The method to be followed shall be that prescribed by the Health Authority or, in case no method is prescribed by it, the following:
 - 1. The piping system shall be flushed with clean, potable water until only potable water appears at the points of outlet.
 - 2. The system or parts thereof shall be filled with a water-chlorine solution containing at least fifty (50) parts per million of chlorine, and the system or part thereof shall be valved-off and allowed to stand for twenty four (24) hours; or, the system or part thereof shall be filled with a water-chlorine solution containing at least two hundred (200) parts per million of chlorine and allowed to stand for three (3) hours.
 - 3. Following the allowed standing time, the system shall be flushed with clean, potable water until the chlorine residual in the water coming from the system does not exceed the chlorine residual in the flushing water.
 - 4. The procedure shall be repeated if it is shown by bacteriological examination made by an approved agency that contamination persists in the system.
- C. Piping tests shall be made with the medium and under pressure listed below. Use a calibrated Bristol Pressure Recorder on all tests. Recorder range shall be 0 - 300 pounds or required range for specific test.

Type of System	Gauge Pressure (Lbs. per sq. inch, gauge)	Test Medium
1. Soil, Waste, Vent Piping Within Building	Minimum of 5 psi for each joint, for duration of test with no loss in pressure.	Water
2. Fuel Gas	50 PSI	Compressed Air
3. Domestic Water	150 PSI	Water
D. Test pressure in pounds per square inch, gauge, are given as initial pressure to be applied to lines being tested, together with test medium.		
E. Tests are to be applied for a minimum period of twenty-four (24) hours and until tests are complete.		
F. Final pressures at the end of test period shall be no more nor less than that caused by expansion or contraction of the test medium due to temperature changes.		

3.3 DRAWINGS OF RECORD

- A. Provide reproducible "as-builts" for the purpose of showing a complete picture of the work as actually installed. Copies of the contract drawings can be made available upon request at cost to the contractor.
- B. These drawings shall serve as work progress report sheets and the Contractor shall make all notations, neat and legible, thereon daily as the work proceeds. The drawings shall be available for inspection at all times and shall be kept at the job at a location designated by the Resident Engineer.
- C. At completion of the work, these as-built drawings shall be signed by the Contractor indicating his approval, dated and returned to the Resident Engineer.
- D. Invert elevations for buried piping and conduit. The dimensions location of all concealed raceway shall be accurately recorded on the "as-built" drawings. Elevation, on Mean Sea Level base, of all piping and conduit runs outside the building shall be recorded.

3.4 FINAL INSPECTION

- A. If upon final completion of the final inspection and review of the maintenance manuals and "as-built" drawings, the list of required corrections is such that a re-inspection is required, the contractor will be subject to a charge of Ninety Dollars (\$90.00) per hour for any additional time required.

3.5 GUARANTEE

- A. All work under this section shall be guaranteed in writing in accordance with the General Provisions.
- B. All material except as otherwise noted shall be new, free from defect and of the quality and rating shown or specified.

- C. Any defect due to missing or improper material or faulty workmanship existing or developing during the warranty period shall be corrected and the resulting damage repaired without additional cost to the Owner.
- D. The warranty period shall be one year from date of acceptance of the project.

END OF SECTION 220500

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplementary Conditions, and Division 01, are a part of this section and the contract for this work and apply to this section as fully as if repeated herein. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing systems.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Pipe Hangers
 - 2. Supports

PART 2 - PRODUCTS

2.1 PIPE HANGERS AND SUPPORTS

- A. All pipe hangers and supports installed in exterior location shall be galvanized.
- B. Split ring hangers with swivel adjuster, solid rods and rod sockets: Steel pipe Fee and Mason Fig. 212, or Super-Strut M-718T.
- C. Adjustable Beam Clamps: Fee and Mason Fig. 246 or Super-Strut Fig. CM-754 (where this type is not adaptable, an approved top beam, side beam, or channel clamp by Fee and Mason or Super-Strut, will be acceptable).
- D. Trapeze Hangers: Super-Strut A-1200 or Unistrut P-1000 channel with pipe clamps and guides as required (include type to be used in submittal).
- E. Riser Clamps (4" Pipe and Less): Fee and Mason Fig. 241 or Super-Strut C-720.
- F. Offset Pipe Clamps: Fee and Mason Fig. 366, or Super-Strut C-720L.
- G. Pipe Isolation: All piping shall be isolated from dissimilar metals, other piping, any part of the building, framing, conduit, supports etc., with Elmdor/Stoneman Series 500 trisolator or approved equal.

PART 3 - EXECUTION

3.1 PIPE HANGERS AND SUPPORTS

- A. Horizontal piping shall be supported as follows: Use beam clamps for attachment to structural steel surfaces and expansion type inserts for attachment to concrete surfaces. Clamps and inserts shall be sized for the required hanger rod and comply with all applicable codes and safety regulations. The use of "C" clamps designed to attach threaded rod to one side of a steel beam flange shall not be used unless they are provided with a restraining strap, or hook to the opposite beam flange.
- B. Piping shall be firmly held in place by adjustable split ring malleable iron hangers, supports and pipe rests, located adjacent to fittings at each offset or change of direction, at the ends of branches over 5' long, at riser pipes and along piping where necessary to prevent sags, bends, or vibration. All hangers and supports shall be of a design that will support the combined weight of pipe, fluid and insulation.
- C. Pipe straps shall be heavy gauge galvanized iron factory fabricated to fit against supporting surface when installed. Makeshift devices will not be acceptable. No plumbing tape is allowed.
- D. Lateral bracing shall be provided at every fourth hanger where hanger rods are more than 18" in length.
- E. Hangers supported by concrete structure shall be attached by cast iron manufactured concrete inserts installed at the time concrete is poured and each insert shall be provided with through rods lapped over structural reinforcing.
- F. Hangers supported by structural steel shapes shall be attached by cast-iron clamps designed for use on the specific steel shape and equipped with retainers.
- G. All hangers shall be attached to halter rod by means of adjustable swivel, turnbuckle or double nut to allow height adjustment.
- H. Vertical piping shall be suitably supported from the building structure where required by means of malleable iron or steel pipe clamps of ample size, either bolted or welded to the pipe and supported at the floor slab. Supports where indicated on the drawings shall also act as anchors to allow for expansion and contraction of the piping. Provide rubber isolators for clamps where required for elimination of vibration and sound to the structure.
- I. Miscellaneous Supports: Wall brackets, etc., shall be provided where required in accordance with the best standard practice of the trade in a manner as approved by the Resident Engineer.
- J. In the event additional structural steel is required to transmit loads to main structure, it shall be provided at no additional cost to the Owner.

K. Soil, Waste, Vent and Down Spouts: Hanger rod sizes shall be as follows:

1-1/2" to 2" Pipe	3/8" Rod
2-1/2" to 3-1/2" Pipe	1/2" Rod
4" to 5" Pipe	5/8" Rod

L. Domestic Water:

1. Hanger Spacing shall be as Follows for Copper Tubing:

1/2" to 3/4" Pipe	5'-0"
1" Pipe	6'-0"
1-1/4" Pipe	7'-0"
1-1/2" to 2" Pipe	8'-0"

2. Hanger Rod Sizes shall be as Follows:

3/4" to 2" Pipe	3/8" Rod
2-1/2" to 3-1/2" Pipe	1/2" Rod

M. For horizontal installations, hangers or supports shall be provided for at least every other joint except when the developed length between supports exceeds 4'. If the developed length exceeds 4', hangers or supports shall be provided at each joint. Supports shall also be provided at each horizontal branch connection. Hangers, supports, or blocks shall be adequate to maintain alignment and prevent sagging or joint separation. Hangers, supports or blocks shall be placed on, or immediately adjacent to, the coupling, not to exceed 18". Adequate provisions shall be made to prevent "shear."

N. Vertical "no-hub" components shall be secured at each stack base, and at sufficiently close intervals to keep system in alignment and to adequately support the weight of the pipe and its contents.

O. Trap arms and similar branches must be firmly secured against movement in any direction. Closet bends shall be stabilized by firmly strapping and blocking. Where vertical closet stubs are used, they must be completely stabilized against all horizontal movement.

END OF SECTION 220529

SECTION 220533 - PLUMBING IDENTIFICATION

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplementary Conditions, and Division 01, are a part of this section and the contract for this work and apply to this section as fully as if repeated herein. Furnish design, construct and install a complete plumbing piping system. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing systems.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Equipment Labels
 - 2. Pipe Labels
 - 3. Stencils

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated submit list of wording, symbols, letter size, and color coding for identification of plumbing.
- B. Samples: Included with the above submittals, shall be samples of each identification material and device used.

1.4 COORDINATION

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 PIPE LABELS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - 3. Bunting Mechanical Identification Systems

- B. General Requirements: Preprinted, color-coded with lettering indicating service, and showing flow direction.
- C. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to partially cover circumference of pipe and to attach to pipe without fasteners or adhesive.
- D. Self-Adhesive Pipe Labels: Printed plastic with contact type permanent adhesive backing.
- E. Pipe Label Contents: Including identification of piping service using same designations or abbreviates as used on drawings, pipe size, and an arrow indicating flow direction.
 - 1. Flow Direction Arrows: Integral with piping system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
 - 2. Lettering Size: At least 1-1/2" high.
- F. Letter Color: See section 3.B.4 below.
- G. Background Color: See section 3.B.4 below.

2.2 STENCILS

- A. Manufacturers (or approved equal):
 - 1. Seton Name Plate Corp
 - 2. Craftmark Identification Systems
 - 3. Bunting Mechanical Identification Systems
- B. General Requirements: Prepared with letter sizes according to ASME A13.1 for piping and minimum letter height of 3/4" for access panel and door labels, equipment labels, and similar operational instructions.
- C. Material: Metal
- D. Stencil Paint Color: Exterior, gloss, black unless otherwise indicated. Paint me be in pressurized spray-can form.
- E. Identification Paint: Exterior in colors according to ASME A13.1 unless otherwise indicated.
- F. Letter Color: See section 3.B.4 below.
- G. Background Color: See section 3.B.4 below.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulates.

3.2 INSTALLATION

- A. Pipe Labels
 - 1. Pipe color coding/painting per specification section 099123-Interior Painting.
 - 2. Stenciled Pipe Label Option: Stencil labels may be provided instead of manufactured pipe labels, at installer's option. Install stenciled pipe, complying with ASME A13.1, on each piping system.
 - a. Identification Paint: Use for contrasting background.
 - b. Stencil Paint: Use for pipe marking
 - 3. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums, and exterior exposed locations as follows:
 - a. Near each valve and control device.
 - b. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
 - c. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
 - d. At access doors, manholes, and similar access points that permit view of concealed piping.
 - e. Near major equipment items and other points of origination and termination.
 - f. Spaced at maximum intervals of 50 feet along each run. Reduce intervals to 25 feet in areas of congested piping and equipment.
 - g. On piping above removable acoustical ceilings. Omit intermediately spaced labels.
 - 4. Pipe Label Color Schedule:
 - a. Domestic Water Piping
 - 1) Background Color: Blue
 - 2) Letter Color: White
 - b. Sanitary Waste Piping
 - 1) Background Color: White
 - 2) Letter Color: Green

END OF SECTION 220533

SECTION 221100 - DOMESTIC WATER PIPING AND SPECIALTIES

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplementary Conditions, and Division 01, are a part of this section and the contract for this work and apply to this section as fully as if repeated herein. Furnish design, construct and install a complete domestic water piping system. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing installation.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Copper Pipe
 - 2. Valves and Fittings
 - 3. Piping Specialties

1.3 QUALITY ASSURANCE

- A. Product Options: Drawings indicate size, profiles, and dimensional requirements of plumbing specialties and are based on the specific system indicated. Refer to Division 01 Section 016000 "Product Requirements."
- B. Plumbing specialties shall bear label, stamp, or other markings of specified testing agency.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for piping materials and installation.
- E. NSF Compliance:
 - 1. Comply with NSF 14, "Plastics Piping Components and Related Materials," for plastic domestic water piping components. Include marking "NSF-PW" on plastic potable-water piping and "NSF-DWV" on plastic drain, waste, and vent piping.
 - 2. Comply with NSF 61, "Drinking Water System Components--Health Effects, Sections 1 through 9," for potable domestic water plumbing specialties.

PART 2 - PRODUCTS

2.1 ALL DOMESTIC WATER PIPING:

- A. Above grade shall be type "L" copper tubing hard drawn with wrought copper solder sweat fittings. Where below grade and within 5' of building line, shall be type "K" copper tubing in single continuous length with polyethylene outer tubing.

2.2 VALVES AND FITTINGS

- A. Stops (Lead Free): Heavy pattern brass chrome plated with 3/8" O.D. compression outlet, 1/2" I.P.S. inlet and riser to match application. Provide stuffing box lock-shield with loose key and shallow stainless steel escutcheon in all exposed public applications. Note: Valve must weigh no less than 6.5 ounces. Dual outlet stops shall be provided with optional brass stem. Stops shall be Brass Craft Compliant KT or approved equal.

2.3 PIPING SPECIALTIES

- A. Unions in Copper Tubing 2" and Smaller: ANSI B16.18 cast bronze union coupling or ANSI B15.24 class 150 bronze flanges. Nibco 733.

- B. Dielectric Fittings:

- 3. Provide fittings and unions to install between pipes made of dissimilar metals. Unions shall be factory certified to withstand a minimum of 600 volts on a dry line with no flash over and shall be rated to 180°F at 250 PSI. Flanged fittings shall have a bolt isolator to insulate each bolt in the flange and shall be rated at 175 PSI. Bolts shall be constructed of durable, corrosion resistant polysulfone. Flanged fittings shall have a Standard Gasket "A" (GA) suitable for water, air, oil, natural gas, propane, gasoline, kerosene, mineral oil, vegetable oil and alkalines in 210°F at 250 PSI. Threaded end connections shall meet ANSI B2.1 and flanged fittings shall meet ANSI B16.42 (iron) and ANSI B16.24 Bronze. Unions shall conform to ANSI B16.39, including hydrostatic strength and air pressure testing. Dielectric fittings and unions shall be constructed of the following materials:

f.	Gray Iron	ASTM A48-83
g.	Malleable iron parts	ASTM A-197-79
h.	Steel parts	ASTM A108
i.	Bronze parts	ASTM B-16
j.	Zinc parts	ASTM B633-85

- 4. Dielectric fittings shall be WATTS Series 3000.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. Joints in copper tubing shall be made by first thoroughly cleaning the surface of the pipe and fittings, applying flux and sweating with 95-5 tin Antimony "soft-solder."
- B. Pipe shall be carefully cleaned before installation. The ends of threaded pipe shall be reamed out full size with a long taper reamer so as to be partially bell-mouthed and perfectly smooth.
- C. Flush out all water mains with water so as to obtain free flow. Remove all obstructions and defects discovered. Remove and re-lay any sections and pipe already laid and found to be defective or which has had grade or joints disturbed.
- D. Openings in pipes, drains, fittings, apparatus and equipment shall be kept covered or plugged to prevent foreign substance from entering.
- E. Run piping free of traps, sags, or bends. Grade and valve for complete drainage and control of the system.
- F. All piping to be run to maintain headroom and keep passageways and openings clear. Run parallel and straight with adjacent walls or ceilings to present a uniform appearance.
- G. All piping, except where noted otherwise on plans, shall be concealed in walls or above ceilings.
- H. Bending or forcing of pipe will not be allowed. Use fittings for all offsets or changes in alignment of piping.
- I. Proper provision shall be made for expansion and contraction by means of fittings and anchors and supports of all piping.
- J. Street elbows, bushings and long screw fittings will not be allowed.
- K. All piping shall be isolated from dissimilar metals, other piping, any part of the building, framing, conduit, supports etc., with Elmdor/Stoneman Series 500 trisolator or approved equal.
- L. PDI sized water hammer arresters shall be installed at the end of the branch line between the last two self-closing water faucet / flush valve fixtures served. When the branch line exceeds 20'-0" in length, an additional water hammer arrester shall be installed.
- M. Unions shall be installed after each screw-type valve, connections for all equipment, appliances and as required for erection and maintenance. No unions shall be installed in a concealed location.
- N. Install isolation unions on all connections between dissimilar metals (galvanized steel, black steel to copper).

END OF SECTION 221100

SECTION 221300 - SANITARY WASTE, VENT, AND SPECIALTIES

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplementary Conditions, and Division 01, are a part of this section and the contract for this work and apply to this section as fully as if repeated herein. Furnish design, construct and install a complete sanitary waste system. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing systems.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
1. Sanitary Waste Piping
 2. Pipe Fittings

PART 2 - PRODUCTS

2.1 FITTINGS AND PIPING

- A. Soil, Waste, and Vent Above and Below Grade Within 5' of Building Line: No hub service weight cast iron soil pipe and fittings conforming to the latest issue of CISPI 301, ASTM A-888. Pipe and fittings shall be GreenSpec listed. Manufacturer shall be Charlotte, Tyler, AB&I, or approved equal.
- B. Joints: Joints for hubless pipe and fittings shall conform to the manufacturer's installation instructions and local code requirements. Hubless couplings shall be composed of a heavy duty four or six band coupling, stainless steel shield / clamp assembly and a fire resistant neoprene gasket conforming to ASTM C1540, CISPI 310, Factory Mutual 1680 Class 1, and bear the NSF trademark, manufactured by Anaco Husky SD4000, Fernco, MiFab or approved equal. Joints for hub and spigot shall be installed with compression gaskets conforming to the requirements of ASTM C-564, or shall be installed with lead and oakum.
- C. Sewer from 5' outside building except as otherwise noted on plans; Schedule 40 PVC piping conforming to ASTM D 2665, fittings conforming to ASTM D 2466 with solvent welded joints conforming to ASTM D2564.
- D. Vent Piping: Service weight cast-iron with same joint as used for soil and waste above grade.

2.2 CLEANOUTS

- A. Wall Cleanouts: J.R. Smith Fig. 4472, or approved equal, series countersunk plug with chrome plated cover and screws.

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

- A. No-Hub cast-iron Soil Pipe Institute Pamphlet #100 and the I.A.P.M.O. IS-6-75.
- B. All sanitary sewers and waste lines shall grade as indicated on drawings. The sections of the pipe shall be laid and fitted so that when completed the pipe will have smooth and uniform invert. Water shall not be allowed in the trenches while the pipes are being laid. Dirt, cement, or any other superfluous material of any description shall be carefully removed from the interior of the piping system as the work progresses. Constant inspection shall be made in pipe and fittings during and after all installation for possible fractures and failures caused by installation. Backfill so as not to disturb pipe or jointing.
- C. Flush out all sanitary drains with water so as to obtain free flow. Remove all obstructions and defects discovered. Remove and re-lay any sections and pipe already laid and found to be defective or which has had grade or joints disturbed.
- D. Openings in pipes, drains, fittings, apparatus and equipment shall be kept covered or plugged to prevent foreign substance from entering.
- E. Run piping free of traps, sags, or bends. Grade and valve for complete drainage and control of the system.
- F. All piping to be run to maintain headroom and keep passageways and openings clear. Run parallel and straight with adjacent walls or ceilings to present a uniform appearance.
- G. All piping, except where noted otherwise on plans, shall be concealed in walls or above ceilings.
- H. Bending or forcing of pipe will not be allowed. Use fittings for all offsets or changes in alignment of piping.

3.2 CLEANOUTS

- A. As specified (see plans for size), cleanouts shall be caulked into pipe where shown on plans under countertops where they occur in walls to avoid their being too conspicuous. Cleanouts shall be accessible in all cases and shall be brought to surface on "Y" branches. All cleanouts shall be provided with removable floor or wall plate as herein specified.
- B. In addition to the cleanouts shown on the plans, install cleanouts in all horizontal lines at each aggregate change of direction exceeding 135°, and at the base of any vertical riser longer than 8'-0". Install cleanout outside the building at the lower end of the building drain and extend to grade.

END OF SECTION 221300

SECTION 224000 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplementary Conditions, and Division 01, are a part of this section and the contract for this work and apply to this section as fully as if repeated herein. The system shall be complete in all respects including all labor, materials, equipment and services necessary, and shall be installed by personnel specifically experienced in plumbing systems.

1.2 WORK INCLUDED

- A. Work included shall be as indicated on the drawings, including but not limited to the following:
 - 1. Plumbing Fixtures
 - 2. Fixture Supports

PART 2 - PRODUCTS

2.1 PLUMBING FIXTURES

- A. Plumbing fixtures shall be as shown in equipment schedule.

PART 3 - EXECUTION

3.1 FIXTURE INSTALLATION

- A. All plumbing fixtures shall be bedded and caulked along joint at walls, countertops, and other intersecting surfaces with Vulkem white silicone, use clear at stainless steel fixtures.
- B. Plumbing fixture trim and exposed supplies and waste shall be brass with polished chrome plated finish. Individual loose key stops, or, so specified, screw driver stops, shall be provided for all supplies, and unless integral with valves or faucets, unless otherwise approved by Resident Engineer, shall be mounted under the fixture. Exposed supplies and wastes through walls shall be provided with polished chrome plated cast brass wall escutcheons.
- C. Fixtures with hangers or supporting arms shall have hangers or arms securely mounted on a 1/4" thick x 6" wide steel wall plate which shall extend at least one stud beyond the first and last fixture mounting points. Concealed arm assemblies shall be attached to plates by four 3/8" x 1-1/4" steel bolts and nuts, and hangers and exposed arms by 5/16" minimum full thread steel studs and jamb nuts. Plates shall be drilled and tapped at the time of fixture installation.

- D. Wall plates shall be recessed flush with studs and shall be securely attached to each stud crossed. In steel stud construction, a 1-1/2" x 18" long furring channel shall be attached to each notched stud with fillet welds 1" long on 6" centers front and back. Plates shall be continuous fillet welded at both top and bottom to each furring channel.

END OF SECTION 224000

SECTION 260000 - ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 GENERAL CONDITIONS:

- A. The Bidding Requirements, Conditions of the Contract, General Provisions, Special Conditions and Division 1 are a part of this section and the contract for this work and apply to this Section as fully as if repeated herein.

1.02 SCOPE

- A. Work Included: All labor, materials, appliances, tools, equipment necessary for and incidental to performing all operations in connection with furnishing, delivery and installation of the work of this Section, complete, as shown on the drawings and/or specified herein. Work includes, but is not necessarily limited to the following:
 - 1. Examine all other sections for work related to those other sections and required to be included as work under this section.
 - 2. Examine the general provisions and requirements for electrical work.

1.03 GENERAL SUMMARY OF ELECTRICAL WORK

- A. These specifications and drawings are intended to cover a complete operation of systems. The omission of expressed references to any item of labor or material for the proper execution of the work in accordance with present practice of the trade shall not relieve the Contractor from providing such additional labor and materials.
- B. This specification, the drawings and General Conditions over the complete furnishing and installation of the electrical system and all related work including, but not limited to the following:
 - 3. Demolition and removal of existing outlets, conduit and wire.
 - 4. Install new outlet boxes, conduit and wire.
 - 5. Refer to Section 283111 DIGITAL, ADDRESSABLE FIRE ALARM SYSTEM for additional requirements.

1.04 WORK NOT INCLUDED

- A. The furnishing and/or installation of electrical motors are by Mechanical Division 23.
- B. The painting of any conduits, equipment or devices, unless specifically noted otherwise.

1.05 COORDINATION

- A. Examine all other sections of these specifications and drawings to determine the complete scope of the electrical work and coordinate all of the electrical work required for the entire project. Provide the correct electrical service to each piece of electrical equipment, and check and coordinate the required electrical service and controls with the actual equipment provided under the other sections of the project.

1.06 INTERPRETATION OF DRAWINGS

- A. These drawings showing the layout of the electrical system indicate approximate locations of outlets, apparatus and equipment. The routes of feeders and branch circuits shown on the drawings are schematic only and are not intended to shown the exact routing and location of conduits and conduit termination.

1.07 ORDINANCES AND REGULATIONS

- A. All work and materials shall be in full accordance with the latest rules of the Municipal Agency, the National Board of Fire Underwriters and State of California Code of Regulations (CCR) Title 24.
- B. Nothing in these plans and specifications is to be construed as permitting work not conforming to these codes.

1.08 PERMITS AND INSPECTIONS

- A. Apply and pay for all permits required by any of the legally constituted public authorities for the installation or construction of the work included under this Division.

1.09 REFERENCE STANDARDS

- A. Materials and workmanship shall conform to the editions of the following standards, codes, or specifications in effect on the date of this specification, unless otherwise specified.

Codes and Regulations of the Jurisdictional Authorities

CEC	2010 California Electrical Code (CCR Title 24 Part 3), based on the 2008 National Electrical Code.
	California Code of Regulations (CCR) Title 24 Parts 1 through 12.
NEMA	National Electrical Manufacturers Association - applicable standards
NFPA	National Fire Protection Association – applicable sections referenced by CCR Title 24
UL	Underwriter's Laboratories, Inc. - applicable standards

- B. UL Label: All electrical materials and equipment falling within the scope of the underwriters’ standards shall bear the UL Label.

1.10 EXAMINATION OF DRAWINGS AND SITE

- A. Contractor shall carefully examine the site and existing building, shall compare the drawings with the existing electrical installations, and shall thoroughly familiarize himself with all existing conditions within the scope of this work.

1.11 SEQUENCING AND SCHEDULING OF WORK

- A. Coordinate work with the work of the other trades, so that the work may proceed as **expeditiously as possible**.

1.12 ELECTRICAL CHARACTERISTICS

- A. Electrical characteristics for this project are 120/208 volts, three phase, 4 wire, 60 hertz.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. All material shall be new unless specifically noted otherwise.

2.02 OUTLET BOXES

- A. Outlet boxes shall be used as pull boxes wherever possible, and junction boxes or pull boxes shall be installed only as required by the drawings or specifications, or as directed.
- B. Unless otherwise specified or noted on the drawings, boxes for the various outlets shall be as follows:
 - 3. For any exposed wiring device box, use cast aluminum or ferrous alloy boxes.
 - 4. Interior wiring device boxes and junction boxes shall be at least 4 inches square by 2-1/8 inch deep. Provide 3 inch or deeper boxes where required for fire alarm devices.
- C. All outlet boxes shall be accurately placed and securely fastened to the structure independent of the conduit.

2.03 CONNECTORS TERMINAL LUGS AND FITTINGS

- A. All connectors shall be UL listed for the intended use.
- B. For #10 AWG and smaller conductor cable: Tin-plated copper pressure connectors with nonflammable, self-extinguishing insulation grip with temperature rating equal to that of conductor insulation.
- C. For #8 AWG to #4/0 AWG conductor cable: Tin-plated copper compression connectors and terminal lugs with nylon insulating sleeve for insulation grip.

2.04 INSULATING TAPE

- A. Plastic tape: Vinyl plastic tape with rubber-based pressure-sensitive adhesive, pliable at zero degrees F.
- B. Rubber tape: Silicone-rubber tape with silicone pressure-sensitive adhesive.
- C. Acceptable Manufacturers: Minnesota Mining and Minerals Co. (3M) #33 or an approved equal.

2.05 RIGID & EMT CONDUIT

- C. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in CEC, by a qualified testing agency, and marked for intended location and application.
GRC: Comply with ANSI C80.1 and UL 6.
IMC: Comply with ANSI C80.6 and UL 1242.
EMT: Comply with ANSI C80.3 and UL 797.
FMC: Comply with UL 1; zinc-coated steel.
LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
- D. Fittings for EMT:

Material: Steel.
Type: Compression.
- C. Joint Compound for IMC, or GRC: Approved, as defined in CEC, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.06 FLEXIBLE METALLIC CONDUIT

- A. Flexible conduit exposed to weather or located in wet or damp locations shall be the weatherproof type with an extruded polyvinyl chloride jacket, as manufactured by American Brass Company, Columbia, Anaconda or Electri-Flex Co.
- B. Use only on motor connections and fixture tails, not over 6 feet in length.

2.07 WIRE AND CABLE

- A. Furnish and install Anaconda, General Cable, General Electric, Habirshaw, Okonite, Paranite, Phelps-Dodge, Cerro, Collyer, Rome or Triangle Wire and Cable. All wire shall be delivered to the job in unbroken packages, and each package shall bear the Underwriters' and Manufacturer's labels, showing the date of manufacture and the maximum allowable voltage.
- B. Conductors shall be soft drawn annealed copper, ninety-eight (98%) percent conductivity, continuous from outlet to outlet, without welds, splices or joints.
- C. Wiring shall be stranded, copper THHN type, including all #12 AWG wire. Exception: wiring for fire alarm circuits shall be solid wire, not stranded.
- C. Provide a dedicated neutral for every one circuit pulled.

2.08 INSULATION

- A. Conductors of the follow types shall be used in the following locations:
 - 1. Indoor branch circuit and feeder cables in all sizes shall have "THHN" " 600-volt insulation unless noted otherwise.

- B. All conductors supplied under the scope of this project shall be insulated for 600 volts minimum. Wire and cable shall meet the applicable requirements of CEC and UL 83 for the type of insulation, jacket, and conductor specified or indicated. Wires and cables manufactured more than 12 months prior to date of delivery to the site shall not be used.
- C. Temperature rating: comply with CEC 110.14(C).
- D. Color-Coding of Secondary Phase Conductors: Match existing facility color code.
- F. Color-Coding of Fire Alarm Conductors: Match existing system color code.

2.09 PANELBOARDS

- A. Provide circuit breakers for existing panelboards where indicated. Circuit breakers shall match existing manufacturer, frame, type and short circuit ratings.
- B. All circuit breakers shall be fully rated to withstand the short circuit current available. Series rated breakers are not acceptable.

2.10 MARKING AND NAME PLATES

- A. Name plates minimum 1" high x 3" wide by 3/32 inch thick matte white laminated phenolic nameplates with 1/4" white characters engraved in the plastic for all items for all electrical equipment including, but not limited to, panel boards, feeder circuit breakers, time switches, disconnect switches, exposed pull or junction boxes. Name plates will be attached with 2 cadmium-plated screws.
- B. Provide wire marker on each conductor in electrical panel pull box, outlet, and junction box. If more than one neutral conductor is present, mark each related circuit and panel number.
- C. 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 limited to, the following: toggle switches and receptacles.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All work shall be in conformance with recognized practices of the National Electrical Contractors Association (NECA) NECA 1 – Standard Practices for Good Workmanship in Electrical Contracting.
 - 1. The Contractor shall perform all cutting and patching of construction work that may be required for the proper installation of the electrical work. All patching shall be of the same materials, workmanship, and finish as, and shall accurately match all surrounding work.
 - 2. All work shall be done under the Owner's instructions, and, when so required, by the trade which performed the original work.

- B. Electrical outlets, devices and equipment furnished by disciplines under the scope of this project shall be installed and fully connected to the electric circuits.
 - 1. The Contractor shall furnish the necessary flexible conduit, connectors, cords, and other equipment that may be required for the proper connection of equipment.
 - 2. The Contractor shall furnish and install conduit, wiring, and connections required by the heating ventilating and air conditioning system for line and low voltage devices as required.

3.02 LOCATIONS AND DIMENSIONS

- A. Install all material and equipment in such a manner as to avoid obstructions, preserve clearances, maintain code spacing and keep openings and passageways clear.
- B. These drawings are diagrammatic to the extent that many offsets, bends, fittings and exact locations are not shown. Determine the best methods, exact locations and routes for installation and note any conflicts or obstructions. The locations shown for conduits, outlets, materials and equipment may be refined to meet the architectural, structural and mechanical conditions with the approval of the Owner.

3.03. OUTLET BOXES

- A. Outlet boxes shall be installed for each device and light fixture. All devices shall be installed in outlet boxes sized per CEC according to the conductor fill. Where oversized boxes are necessary due to the number of conductors, the contractor shall furnish the required box size.
- B. Outlet boxes shall be independently supported to framing, ceiling slabs or other structures in an approved manner. Conduit shall not be the sole support of outlet boxes.

3.04 EQUIPMENT GROUNDING

- A. Comply with CEC and local amendments.
- B. A green insulated copper ground wire, sized per CEC shall be provided with each feeder or branch circuit of operating over 50 volts to ground. This ground wire shall be used for the grounding of all equipment.
- C. Ground conductors for branch circuit wiring shall be attached at each outlet to the back of the box using drilled and tapped holes and washer head screws, 6-32 or larger.
- D. Each panelboard, switchboard, pullbox or any other enclosure in which several ground wires are terminated shall be equipped with a ground bus secured to the interior of the enclosure. The bus ampacity shall be equal to the phase bus size and shall have a separate lug for each ground conductor. No more than one conductor shall be installed per lug.

3.05 FLEXIBLE METALLIC CONDUIT

- A. Final connections of conduit systems to all motors and direct wired vibrating equipment (including transformers) for interior and exterior locations not to exceed three (3) foot length.
- B. Light fixture connections in accessible locations (6 feet maximum).

3.06 INSTALLING WIRE

- A. All circuit and feeder wires shall be continuous from switch to terminal or farthest outlet. No joints shall be made except in pull, junction or outlet boxes, or in panel or switchboard.
- B. All branch circuit and fixture wiring joints, splices and tapes for conductors #10 and smaller shall be made with UL listed connectors listed for 600 volts. Connector bodies shall consist of a cone shape expandable coil spring insert, insulated with Teflon or plastic shell. The connectors shall be the "Wing Nut" as manufactured by "Ideal Industries" or "Scotchlok" as manufactured by Minnesota Mining Manufacturing Company.
- C. Make all connections and splices necessary to properly install and complete the work. All splices shall be taped. All connections and splices shall be electrically and mechanically perfect, and in strict accordance with all Code requirements.

END OF SECTION 260000

SECTION 283111 - DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Replacement fire-alarm control unit.
 - 2. Manual fire-alarm boxes.
 - 3. Notification appliances.
- B. Related Requirements:
 - 1. Section 260000 "GENERAL ELECTRICAL REQUIREMENTS" for cables and conductors for fire-alarm systems.

1.2 DEFINITIONS

- A. EMT: Electrical Metallic Tubing.
- B. FACP: Fire Alarm Control Panel.
- C. NICET: National Institute for Certification in Engineering Technologies.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product, including furnished options and accessories.
 - 1. Include construction details, material descriptions, dimensions, profiles, and finishes.
 - 2. Include rated capacities, operating characteristics, and electrical characteristics.
 - 3. Include CSFM listing numbers.
- B. Shop Drawings: For fire-alarm system.
 - 1. Comply with recommendations and requirements in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - 2. Include plans, elevations, sections, details, and attachments to other work.
 - 3. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements, and distinguish between factory and field wiring.
 - 4. Detail assembly and support requirements.
 - 5. Include voltage drop calculations for notification-appliance circuits.
 - 6. Include battery-size calculations.
 - 7. Include input/output matrix.
 - 8. Include statement from manufacturer that all equipment and components have been tested as a system and meet all requirements in this Specification and in NFPA 72.

9. Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams.
- C. General Submittal Requirements:
1. Submittals shall be approved by authorities having jurisdiction prior to construction.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.
1. Include the following and deliver copies to authorities having jurisdiction:
 - a. Comply with the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - b. Provide "Fire Alarm and Emergency Communications System Record of Completion Documents" according to the "Completion Documents" Article in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - c. Complete wiring diagrams showing connections between all devices and equipment. Each conductor shall be numbered at every junction point with indication of origination and termination points.
 - d. Riser diagram.
 - e. Device addresses.
 - f. Record copy of site-specific software.
 - g. Provide "Inspection and Testing Form" according to the "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:
 - 1) Equipment tested.
 - 2) Frequency of testing of installed components.
 - 3) Frequency of inspection of installed components.
 - 4) Requirements and recommendations related to results of maintenance.
 - 5) Manufacturer's user training manuals.
 - h. Manufacturer's required maintenance related to system warranty requirements.
 - i. Abbreviated operating instructions for mounting at fire-alarm control unit and each annunciator unit.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
 - 2. Lamps for Strobe Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.
 - 3. Keys and Tools: One extra set for access to locked or tamperproofed components.
 - 4. Audible and Visual Notification Appliances: One of each type installed.
 - 5. Fuses: Two of each type installed in the system. Provide in a box or cabinet with compartments marked with fuse types and sizes.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Personnel shall be trained and certified by manufacturer for installation of units required for this Project.
- B. Installer Qualifications: Installation shall be by personnel certified by NICET as fire-alarm Level IV technician.
- C. NFPA Certification: Obtain certification according to NFPA 72 by an NRTL (nationally recognized testing laboratory).

1.8 PROJECT CONDITIONS

- A. Perform a full test of the existing system prior to starting work. Document any equipment or components not functioning as designed.
- B. Interruption of Existing Fire-Alarm Service: Do not interrupt fire-alarm service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary guard service according to requirements indicated:
 - 1. Notify Owner representative no fewer than ten days in advance of proposed interruption of fire-alarm service.
 - 2. Do not proceed with interruption of fire-alarm service without Owner representative's written permission.
- C. Use of Devices during Construction: Protect devices during construction unless devices are placed in service to protect the facility during construction.

1.9 SEQUENCING AND SCHEDULING

- A. Existing Fire-Alarm Equipment: Maintain existing equipment fully operational until new equipment has been tested and accepted. As new equipment is installed, label it "NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into service, and label existing fire-alarm equipment "NOT IN SERVICE" until removed from the building.

- B. Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Extent: All equipment and components not covered in the Maintenance Service Agreement.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Source Limitations for Fire-Alarm System and Components: Components shall be compatible with, and operate as an extension of, the existing Simplex 4100 system. Provide system manufacturer's certification that all components provided have been tested as, and will operate as, a system.
- B. All components provided shall be listed for use with the existing system.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 FIRE-ALARM CONTROL UNIT

- A. The fire-alarm control unit is an existing Simplex 4100 fire alarm control panel.

2.3 MANUAL FIRE-ALARM BOXES

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings.
- B. General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show visible indication of operation; and shall be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.

2.4 NOTIFICATION APPLIANCES

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings.
- B. General Requirements for Notification Appliances: Connected to notification-appliance signal circuits, zoned as indicated, equipped for mounting as indicated, and with screw terminals for system connections.

1. Combination Devices: Factory-integrated audible and visible devices in a single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.
- C. Horns: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating mechanism behind a grille. Comply with UL 464. Horns shall produce a sound-pressure level of 90 dBA, measured 10 feet from the horn, using the coded signal prescribed in UL 464 test protocol.
- D. Visible Notification Appliances: Xenon strobe lights complying with UL 1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate. The word "FIRE" is engraved in minimum 1-inch- high letters on the lens.
1. Rated Light Output:
 - a. 15/30/75/110 cd, as indicated.
 2. Mounting: Wall or ceiling mounted as indicated.
 3. For units with guards to prevent physical damage, light output ratings shall be determined with guards in place.
 4. Flashing shall be in a temporal pattern, synchronized with other units.
 5. Strobe Leads: Factory connected to screw terminals.
 6. Mounting Faceplate: Factory finished, white.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.
1. Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.
- B. Examine roughing-in for electrical connections to verify actual locations of connections before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EQUIPMENT INSTALLATION

- A. Comply with NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install all electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."
1. Devices placed in service before all other trades have completed cleanup shall be replaced.

2. Devices installed but not yet placed in service shall be protected from construction dust, debris, dirt, moisture, and damage according to manufacturer's written storage instructions.
- B. Connecting to Existing Equipment: Verify that existing fire-alarm system is operational before making changes or connections.
1. Connect new equipment to existing control panel in existing part of the building.
 2. Connect new equipment to existing monitoring equipment at the supervising station.
 3. Expand, modify, and supplement existing control and monitoring equipment as necessary to extend existing control and monitoring functions to the new points. New components shall be capable of merging with existing configuration without degrading the performance of either system.
- C. Manual Fire-Alarm Boxes:
1. Install manual fire-alarm box in the normal path of egress within 60 inches of the exit doorway.
 2. Mount manual fire-alarm box on a background of a contrasting color.
 3. The operable part of manual fire-alarm box shall be between 42 inches and 48 inches above floor level. All devices shall be mounted at the same height unless otherwise indicated.
- D. Audible Alarm-Indicating Devices: Install as indicated on the drawings. Install horns on flush-mounted back boxes with the device-operating mechanism concealed behind a grille. Install all devices at the same height unless otherwise indicated.
- E. Visible Alarm-Indicating Devices: Install as indicated on the drawings. Install all devices at the same height unless otherwise indicated.

3.3 PATHWAYS

- A. Pathways shall be installed in EMT.
- B. Exposed EMT shall be painted red enamel.

3.4 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260000 "GENERAL ELECTRICAL REQUIREMENTS."

3.5 GROUNDING

- A. Ground fire-alarm control unit and associated circuits; comply with IEEE 1100.
- B. Ground shielded cables at the control panel location only. Insulate shield at device location.

3.6 FIELD QUALITY CONTROL

- A. Field tests shall be witnessed by authorities having jurisdiction.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
- D. Perform the following tests and inspections:
 - 1. Visual Inspection: Conduct visual inspection prior to testing.
 - a. Inspection shall be based on completed record Drawings and system documentation that is required by the "Completion Documents, Preparation" table in the "Documentation" section of the "Fundamentals" chapter in NFPA 72.
 - b. Comply with the "Visual Inspection Frequencies" table in the "Inspection" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72; retain the "Initial/Reacceptance" column and list only the installed components.
 - 2. System Testing: Comply with the "Test Methods" table in the "Testing" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
 - 3. Test audible appliances for the public operating mode according to manufacturer's written instructions. Perform the test using a portable sound-level meter complying with Type 2 requirements in ANSI S1.4.
 - 4. Test audible appliances for the private operating mode according to manufacturer's written instructions.
 - 5. Test visible appliances for the public operating mode according to manufacturer's written instructions.
 - 6. Factory-authorized service representative shall prepare the "Fire Alarm System Record of Completion" in the "Documentation" section of the "Fundamentals" chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" section of the "Inspection, Testing and Maintenance" chapter in NFPA 72.
- E. Reacceptance Testing: Perform reacceptance testing to verify the proper operation of added or replaced devices and appliances.
- F. Fire-alarm system will be considered defective if it does not pass tests and inspections.
- G. Prepare test and inspection reports.

END OF SECTION 283111

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A
NOTICES OF EXEMPTION

NOTICE OF EXEMPTION

(Check one or both)

TO: X RECORDER/COUNTY CLERK
P.O. BOX 1750, MS A-33
1600 PACIFIC HWY, ROOM 260
SAN DIEGO, CA 92101-2422

FROM: CITY OF SAN DIEGO
DEVELOPMENT SERVICES DEPARTMENT
1222 FIRST AVENUE, MS 501
SAN DIEGO, CA 92101

 OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET, ROOM 121
SACRAMENTO, CA 95814

PROJECT NO.: B-13018.02.06/PTS# 330289 PROJECT TITLE: CASA DE BALBOA -- ADA VOLUNTARY BARRIER REMOVALS

PROJECT LOCATION-SPECIFIC: The project is located at 1649 El Prado within Balboa Park in the El Prado National Historical Landmark District – Historic Resources Board Site #1. (Council District 3)

PROJECT LOCATION-CITY/COUNTY: San Diego/San Diego

DESCRIPTION OF NATURE AND PURPOSE OF THE PROJECT: The project will bring this facility into compliance with current Americans with Disabilities Act (ADA) Standards and California Title 24 regulations. ADA accessibility improvements are required to ensure building facilities are readily accessible to and usable by individuals with disabilities in terms of architecture, design, and communication. The project will provide a compliant visual fire alarm system, signage identifying permanent rooms, compliant doors and/or hardware, compliant railing at existing ramp and guard rails. It will also remove and re-install existing railing and upgrade existing restrooms by modifying partitions, grab bars, toilets, sinks and other interior appurtenances, including the installation of new drinking fountains. Modifications will comply with current ADA and Secretary of the Interior Standards for the Treatment of Historic Properties by providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant historic features. These minor alterations or new construction would not adversely affect the special character or special historical value of Balboa Park or the El Prado National Historical Landmark District.

NAME OF PUBLIC AGENCY APPROVING PROJECT: City of San Diego

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT: City of San Diego, Public Works, Contact: Coselyn Goodrich
525 B Street, MS 908A, San Diego, CA 92101
(619) 533-4633

EXEMPT STATUS:

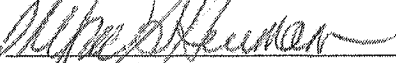
- MINISTERIAL (SEC. 21080(b)(1); 15268);
- DECLARED EMERGENCY (SEC. 21080(b)(3); 15269(a));
- EMERGENCY PROJECT (SEC. 21080(b)(4); 15269 (b)(c))
- CATEGORICAL EXEMPTION: 15301- EXISTING FACILITIES/15302 - REPLACEMENT OR RECONSTRUCTION AND 15331 HISTORICAL RESOURCES RESTORATION/REHABILITATION
- STATUTORY EXEMPTION:

REASONS WHY PROJECT IS EXEMPT: The City of San Diego conducted an environmental Review and determined the project meets the criteria for a Categorical Exemption pursuant to State CEQA Guideline §15301- Existing Facilities which allows for the operation, repair, maintenance, permitting, leasing, licensing or minor alterations of existing public or private structures or facilities involving negligible or no expansion of use; §15302 - Replacement or reconstruction which allows for replacement or reconstruction of existing facilities where the construction and location of limited numbers of new small facilities or structures are located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced; § 15331 - Historical Resources

IF FILED BY APPLICANT:

1. ATTACH CERTIFIED DOCUMENT OF EXEMPTION FINDING.
2. HAS A NOTICE OF EXEMPTION BEEN FILED BY THE PUBLIC AGENCY APPROVING THE PROJECT?
() YES () NO

IT IS HEREBY CERTIFIED THAT THE CITY OF SAN DIEGO HAS DETERMINED THE ABOVE ACTIVITY TO BE EXEMPT FROM CEQA

 SENIOR PLANNER

December 2, 2013
DATE

SIGNATURE/TITLE

CHECK ONE:

- (X) SIGNED BY LEAD AGENCY
() SIGNED BY APPLICANT

DATE RECEIVED FOR FILING WITH COUNTY CLERK OR OPR:

NOTICE OF EXEMPTION

(Check one or both)

TO: RECORDER/COUNTY CLERK
P.O. BOX 1750, MS A-33
1600 PACIFIC HWY, ROOM 260
SAN DIEGO, CA 92101-2422

FROM: CITY OF SAN DIEGO
DEVELOPMENT SERVICES DEPARTMENT
1222 FIRST AVENUE, MS 501
SAN DIEGO, CA 92101

OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET, ROOM 121
SACRAMENTO, CA 95814

PROJECT NO.: B-13021.02.06/PTS# 330886 PROJECT TITLE: MUSEUM OF MAN – ADA VOLUNTARY BARRIER REMOVALS

PROJECT LOCATION-SPECIFIC: The project is located 1350 El Prado within the Balboa Park community planning area and nationally registered Balboa Park historical district – Historic Resources Board Site #1. (Council District 3)

PROJECT LOCATION-CITY/COUNTY: San Diego/San Diego

DESCRIPTION OF NATURE AND PURPOSE OF THE PROJECT: The project will bring this facility into compliance with current Americans with Disabilities Act (ADA) Standards and California Title 24 regulations. ADA accessibility improvements are required to ensure building facilities are readily accessible to and usable by individuals with disabilities in terms of architecture, design, and communication. The project will provide a compliant visual fire alarm system, interior handrails and railings (removing existing non-compliant railing), new walk off mat & frame, replace front entry doors, tempered glass to match existing (frame color to match existing), half saddle threshold at Lobby, cane detection rail at stairs where head clearance is less than 80”, transition between ramp and floor, signs at elevator, new drinking fountain. Modifications will comply with current ADA and Secretary of Interior Standards for the Treatment of Historic Properties by providing barrier-free access that promotes independence for the disabled person to the highest degree practicable, while preserving significant historic features. These minor alterations or new construction would not adversely affect the special character or special historical value of Balboa Park or the El Prado National Historical Landmark District.

NAME OF PUBLIC AGENCY APPROVING PROJECT: City of San Diego

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT: City of San Diego, Public Works, Contact: Coselyn Goodrich
525 B Street, MS 908A, San Diego, CA 92101
(619) 533-4633

EXEMPT STATUS:

- MINISTERIAL (SEC. 21080(b)(1); 15268);
- DECLARED EMERGENCY (SEC. 21080(b)(3); 15269(a));
- EMERGENCY PROJECT (SEC. 21080(b)(4); 15269 (b)(c))
- CATEGORICAL EXEMPTION: 15301- EXISTING FACILITIES/15302 - REPLACEMENT OR RECONSTRUCTION & 15331 HISTORICAL RESOURCES RESTORATION/REHABILITATION
- STATUTORY EXEMPTION:


REASONS WHY PROJECT IS EXEMPT: The City of San Diego conducted an environmental Review and determined the project meets the criteria for a Categorical Exemption pursuant to State CEQA Guideline §15301- Existing Facilities which allows for the operation, repair, maintenance, permitting, leasing, licensing or minor alterations of existing public or private structures or facilities involving negligible or no expansion of use; §15302 - Replacement or reconstruction which allows for replacement or reconstruction of existing facilities where the construction and location of limited numbers of new small facilities or structures are located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced; § 15331 - Historical Resources Restoration/Rehabilitation which allows for maintenance, repair, stabilization, restoration, preservation, conservation or reconstruction of historical resources in a manner consistent with the Secretary of Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. This project has been reviewed by the Historical Resources Board staff and determined to be consistent with the Secretary of the Interior’s Standards; and where the exceptions listed in Section 15300.2 would not apply.

LEAD AGENCY CONTACT PERSON: MYRA HERRMANN, SENIOR PLANNER TELEPHONE: 619-446-5372

IF FILED BY APPLICANT:

1. ATTACH CERTIFIED DOCUMENT OF EXEMPTION FINDING.
2. HAS A NOTICE OF EXEMPTION BEEN FILED BY THE PUBLIC AGENCY APPROVING THE PROJECT?
() YES () NO

IT IS HEREBY CERTIFIED THAT THE CITY OF SAN DIEGO HAS DETERMINED THE ABOVE ACTIVITY TO BE EXEMPT FROM CEQA



SIGNATURE/TITLE
CHECK ONE:

SENIOR PLANNER

December 2, 2013

DATE

- (X) SIGNED BY LEAD AGENCY
() SIGNED BY APPLICANT

DATE RECEIVED FOR FILING WITH COUNTY CLERK OR OPR:

APPENDIX B
FIRE HYDRANT METER PROGRAM

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 1 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

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.)

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- 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.

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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.

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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.

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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

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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

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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

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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.

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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.

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- 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>			

Fire Hydrant Meter Removal Request	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: \$ 936.00 Fees Amount: \$ 62.00
Meter Serial #	Meter Size: 05 Meter Make and Style: 6-7
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

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

1. Soil amendment
2. Fiber mulch
3. Pvc or pe pipe up to 16 inch diameter
4. Stabilizing emulsion
5. Lime
6. Preformed elastomeric joint seal
7. Plain and fabric reinforced elastomeric bearing pads
8. Steel reinforced elastomeric bearing pads
9. Waterstops (special condition)
10. Epoxy coated bar reinforcement
11. Plain and reinforcing steel
12. Structural steel
13. Structural timber and lumber
14. Treated timber and lumber
15. Lumber and timber
16. Aluminum pipe and aluminum pipe arch
17. Corrugated steel pipe and corrugated steel pipe arch
18. Structural metal plate pipe arches and pipe arches
19. Perforated steel pipe
20. Aluminum underdrain pipe
21. Aluminum or steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints
22. Metal target plates
23. Paint (traffic striping)
24. Conductors
25. Painting of electrical equipment
26. Electrical components
27. Engineering fabric
28. Portland cement
29. Pcc admixtures
30. Minor concrete, asphalt
31. Asphalt (oil)
32. Liquid asphalt emulsion
33. Epoxy

APPENDIX D
SAMPLE CITY INVOICE

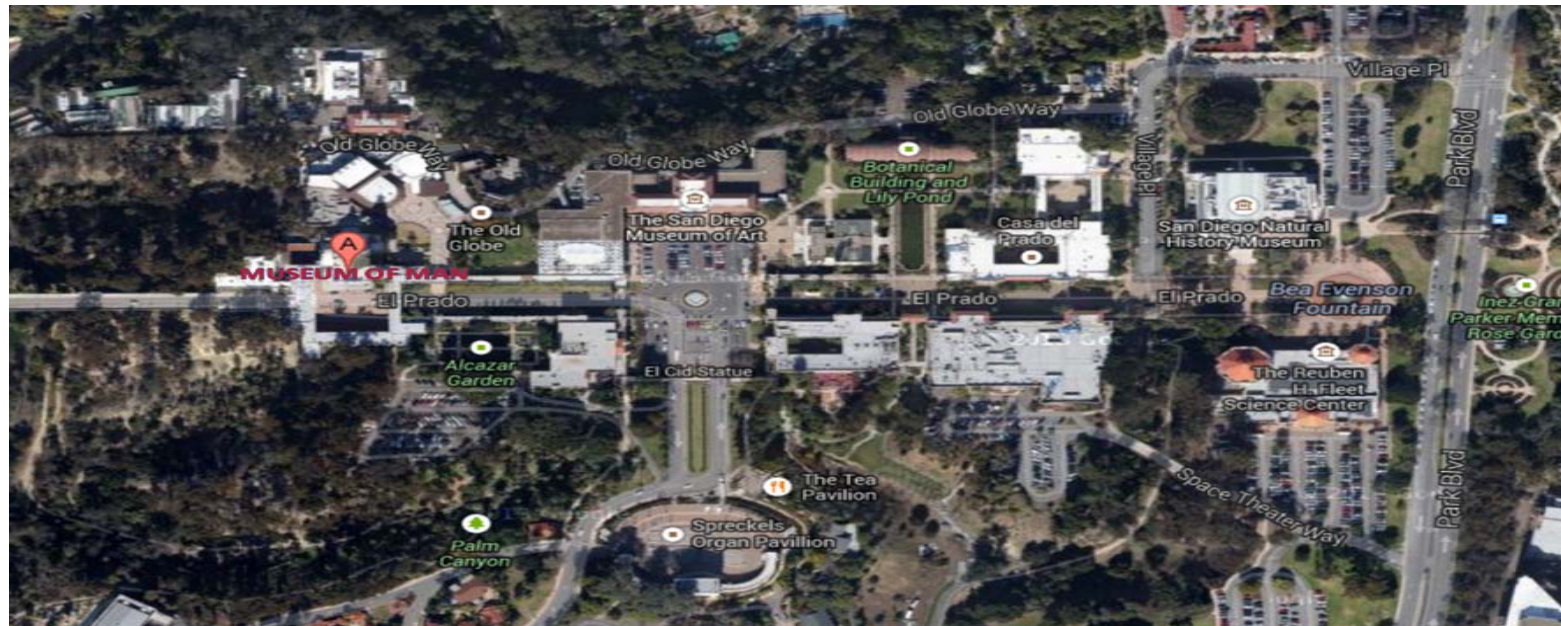
City of San Diego, Field Engineering Div., 9485 Aero Drive, SD CA 92123						Contractor's Name:					
Project Name:						Contractor's Address:					
SAP No. (WBS/IO/CC):											
City Purchase Order No. :						Contractor's Phone #:			Invoice No.		
Resident Engineer (RE):						Contractor's Fax #:			Invoice Date:		
RE Phone#:		RE Fax#:				Contact Name:			Billing Period:		
Item #	Item Description	Contract Authorization				Previous Estimate		This Estimate		Totals to Date	
		Unit	Qty	Price	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount
1	2 Parallel 4" PVC C900	LF	1,380	\$34.00	\$46,920.00						
2	48" Primary Steel Casing	LF	500	\$1,000.00	\$500,000.00						
3	2 Parallel 12" Secondary Steel	LF	1,120	\$53.00	\$59,360.00						
4	Construction and Rehab of PS 49	LS	1	\$150,000.00	\$150,000.00						
5	Demo	LS	1	\$14,000.00	\$14,000.00						
6	Install 6' High Chain Link Fence	LS	1	\$5,600.00	\$5,600.00						
7	General Site Restoration	LS	1	\$3,700.00	\$3,700.00						
8	10" Gravity Sewer	LF	10	\$292.00	\$2,920.00						
9	4" Blow Off Valves	EA	2	\$9,800.00	\$19,600.00						
10	Bonds	LS	1	\$16,000.00	\$16,000.00						
11	Field Orders	AL	1	80,000	\$80,000.00						
11.1	Field Order 1	LS	5,500	\$1.00	\$5,500.00						
11.2	Field Order 2	LS	7,500	\$1.00	\$7,500.00						
11.3	Field Order 3	LS	10,000	\$1.00	\$10,000.00						
11.4	Field Order 4	LS	6,500	\$1.00	\$6,500.00						
12	Certified Payroll	LS	1	\$1,400.00	\$1,400.00						
CHANGE ORDERS											
Change Order 1			4,890								
Items 1-4					\$11,250.00						
Item 5-Deduct Bid Item 3		LF	120	-\$53.00	(\$6,360.00)						
Change Order 2			160,480								
Items 1-3					\$95,000.00						
Item 4 Deduct Bid Item 1		LF	380	-\$340.00	(\$12,920.00)						
Item 5-Encrease bid Item 9		LF	8	\$9,800.00	\$78,400.00						
Change Order 3 (Close Out)			-121,500								
Item 1 Deduct Bid Item 3			53	-500.00	(\$26,500.00)						
Item 2 Deduct Bid Item 4		LS	-1	45,000.00	(\$45,000.00)						
Items 3-9			1	-50,500.00	(\$50,500.00)						
SUMMARY								Total This	\$ -	Total Billed	\$0.00
A. Original Contract Amount						Retention and/or Escrow Payment Schedule					
B. Approved Change Order 1 Thru 3						Total Retention Required as of this billing					
C. Total Authorized Amount (A+B)						Previous Retention Withheld in PO or in Escrow					
D. Total Billed to Date						Add'l Amt to Withhold in PO/Transfer in Escrow:					
E. Less Total Retention (5% of D)						Amt to Release to Contractor from PO/Escrow:					
F. Less Total Previous Payments											
G. Payment Due Less Retention						Contractor Signature and Date:					
H. Remaining Authorized Amount											

APPENDIX E
LOCATION MAP

LOCATION MAP
CASA DE BALBOA



MUSEUM OF MAN



APPENDIX F
ASBESTOS AND LEAD REPORTS

CITY of SAN DIEGO

6981

4615 JAN 30 14

WORK REQUEST FOR ASBESTOS & LEAD MANAGEMENT PROGRAM

Department: Public Works

Dept#: 2112

Division: AE&P

Work Requested By: Yovanna Hanna

MS#: 908A

Phone/Fax: 619-533-5130

Facility Name/Address: Casa De Balboa 1649 El Prado, San Diego

Facility #: 00088

Age of Facility: 19

Plans Attached? YES NO

Target Start: 5/14

Description of Proposed Work (explain detail of work as well as where in facility):

The project will bring this facility into compliance with current Americans with Disabilities Act (ADA) Standards and California Title 24 regulations. ADA accessibility improvements are required to ensure building facilities are readily accessible to and usable by individuals with disabilities in terms of architecture, design, and communication: Provide compliant visual fire alarm system, Provide signage identifying permanent rooms, Provide compliant door and/or hardware, Provide compliant railing at existing ramp, Provide guard rails, Remove and re-install existing railing, Upgrade existing restrooms, Provide new toilet partitions to correct height Reinstall existing grab bars to correct height, Reinstall urinals to correct height, Reinstall toilets to correct height, Reinstall sinks to correct height, Provide new hand dryers, Provide new trash receptacles, Provide new counters, Reinstall doors and hardware, Install new drinking fountains

Have internal order or WBS # opened to ALMP for labor cost. ALMP cost center 2115111111; fund 100000; revenue acct 424071. The following accounting #s are for laboratory, abatement, and/or other NPE. Request estimate if needed.

Accounting Numbers:

400848 B13018
Cost Center Fund G/L # Internal Order/WBS

I have the authority to authorize ALMP to bill hourly inspection labor and laboratory expenses to the accounting numbers above for work related to this project.

Signature Yovanna F. Hanna

Title Assistant Engineer

Date 1/23/14

Print Name _____

Div. Analyst Name AEP/Emily Perrone

Send completed form to: **ASBESTOS & LEAD MANAGEMENT PROGRAM** - 9601 Ridgehaven Court, Suite 310, San Diego, CA 92123 or MS 1103-A or Fax (858)492-5089

FOR OFFICE USE ONLY

Date Received 1-30-14

Inspector BRAD BLONDET

Records/Inspection Information

The Casa De Balboa was rebuilt after a 1978 fire.

Impact on Project

The proposed ADA work areas at the Casa De Balboa were inspected for asbestos and lead. No asbestos or lead materials were found in the ADA work areas. Please see attached spec language and Memo 2014/1577 with attached XRF readings. No impact on ADA work.

William B. BlonDET
ASBESTOS & LEAD PROGRAM INSPECTOR

02-06-14
DATE

Angel
ASBESTOS & LEAD PROGRAM MANAGER

2/6/14
DATE

Asbestos & Lead Management Program -- (858) 573-1262 (FAX) (858) 492-5089



THE CITY OF SAN DIEGO

MEMORANDUM

DATE: February 06, 2014

TO: Hanna Yovanna, Assistant Engineer Civil, Public Works Department, AE&P Division

FROM: Wm. Brad Blondet, Asbestos & Lead Program Inspector
 via Alan J. Johanns, Asbestos & Lead Program Manager, Environmental Services Department, Energy, Sustainability, and Environmental Protection Division

SUBJECT: Casa De Balboa ADA Upgrades

Per your request, the Asbestos and Lead Management Program (ALMP) performed a limited asbestos and lead inspection for the proposed ADA upgrades on February 3rd, 2014 at the Casa De Balboa (Facility 688) located at 1649 El Prado, San Diego, CA 92104.

The investigation included sampling of suspect materials likely to be disturbed during the ADA renovations.

Asbestos results

No suspect asbestos materials were found at the proposed work locations. No samples collected.

Lead results

Please see the following table for lead sample result:

Sample #	Material	Lead
22	Gray Paint on South Exterior side Metal Door	.02 mg/cm ²
23	Tan Paint on South Exterior side Metal Door	0 mg/cm ²
24	Tan Paint on South Exterior side Metal Door	0 mg/cm ²
25	Black Paint on East Exterior side Metal Handrail	.05 mg/cm ²
26	Tan Paint on East Exterior side Metal Door	0 mg/cm ²
27	Brown Paint on Interior Stairwell Concrete Landing	.02 mg/cm ²
28	Tan Paint on Interior Stairwell Concrete Wall	0 mg/cm ²
29	Black Paint on Interior North side Metal Handrail	0 mg/cm ²

Page 2
Hanna Yovanna
February 6, 2014

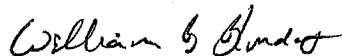
30	White Paint on Interior North side Drywall Wall	0 mg/cm ²
31	Gray Paint on Interior Restroom Wood Door	0 mg/cm ²
32	Gray Paint on Interior Restroom Metal Door Frame	0 mg/cm ²
33	Yellow Paint on Interior Restroom Metal Partition	0 mg/cm ²
34	Gray Coating on Interior Restroom Ceramic Floor Tile	0 mg/cm ²
35	Gray Coating on Interior Restroom Ceramic Wall Tile	.01 mg/cm ²
36	White Coating on Interior Restroom Ceramic Wall Tile	.01 mg/cm ²
37	Brown Paint on Interior Restroom Concrete Floor	0 mg/cm ²
38	Yellow Paint on Interior Restroom Drywall Wall	0 mg/cm ²
39	Yellow Paint on Interior Restroom Metal Partition	.05 mg/cm ²
40	Yellow Paint on Interior Restroom Wood Door	0 mg/cm ²
41	Yellow Paint on Interior Restroom Metal Door Frame	0 mg/cm ²

Recommendations

The above listed painted components do not have lead based paint or concentrations of lead at the threshold where abatement is necessary. The proposed work areas do not have asbestos or lead concerns. Please notify ALMP if the scope of work changes.

If you have any questions regarding these results, please contact me at (858) 492-5086 or WBlondet@sandiego.gov

Sincerely,



Wm. Brad Blondet
ALMP Inspector

Attachments: Lead Results

memo2014\1577

ASBESTOS AND LEAD MATERIALS

General

- A. The City of San Diego's Asbestos and Lead Management Program (ALMP) has performed an asbestos and lead inspection for the Casa De Balboa ADA Upgrades involved with this contract. The Contractor that is awarded this contract shall not include any costs associated with mitigation of the asbestos and lead materials as it will be performed by a separate City contract with the work being performed at the beginning of each project. The results of the testing are summarized in Table 1.

- B. The inspection and sampling performed by the ALMP was conducted without using destructive methods. Therefore, it is possible for the Contractor to encounter additional suspected hazardous materials as the walls are opened during demolition. The Contractor and his staff shall continue looking for suspected materials throughout this process.
 1. If additional suspected asbestos materials or loose and flaky lead paint are identified, stop work in that area and immediately notify the Resident Engineer.
 2. As soon as possible, the City will undertake confirmation of the materials and determine if abatement is required. If abatement is required, the City will conduct such abatement at no cost to the Contractor.
 3. The Contractor shall remain out of that work area if abatement is required. There will be no additional financial compensation to the Contractor during the removal of this ACM or loose and flaky lead paint.

TABLE 1

Environmental Testing Results

The following is a summary of laboratory results for the Timken Gallery. The investigation included sampling of suspect materials likely to be disturbed during the ADA renovations:

Asbestos results

No suspect asbestos materials were found at the proposed work locations. No samples collected.

Lead results

Please see the following table for lead sample result. The complete XRF data can be found on the following pages:

Sample #	Material	Lead
33	Yellow Paint on Interior Metal Restroom Door Frame	.01 mg/cm ²



City of San Diego
Lead Safety and Healthy Homes Program



Casa De Balboa ADA Upgrades

XRF Assay Results

Reading No.	Time	Duration	Mode	Location	Room	Side	Component	Condition	Substrate	Color	Results	PbC	Units
19	2/3/14 12:33	20	K & L				CALIB. CHECK			RED	Positive	1.1	mg / cm ²
20	2/3/14 12:33	20	K & L				CALIB. CHECK			RED	Positive	1	mg / cm ²
21	2/3/14 12:34	20	K & L				CALIB. CHECK			RED	Positive	1	mg / cm ²
22	2/3/14 13:16	1.15	Std.	CASA DE BALBOA	EXTERIOR	SOUTH C	DOOR	INTACT	METAL	GRAY	Negative	0.02	mg / cm ²
23	2/3/14 13:17	1.15	Std.	CASA DE BALBOA	EXTERIOR	SOUTH C	DOOR	INTACT	METAL	TAN	Negative	0	mg / cm ²
24	2/3/14 13:18	1.15	Std.	CASA DE BALBOA	EXTERIOR	SOUTH C	DOOR	INTACT	METAL	TAN	Negative	0	mg / cm ²
25	2/3/14 13:20	1.15	Std.	CASA DE BALBOA	EXTERIOR	EAST B	HANDRAIL	INTACT	METAL	BLACK	Negative	0.05	mg / cm ²
26	2/3/14 13:21	1.15	Std.	CASA DE BALBOA	EXTERIOR	EAST B	DOOR	INTACT	METAL	TAN	Negative	0	mg / cm ²
27	2/3/14 13:26	1.54	Std.	CASA DE BALBOA	INTERIOR	STAIRWELL	LANDING	INTACT	CONCRETE	BROWN	Negative	0.02	mg / cm ²
28	2/3/14 13:29	1.93	Std.	CASA DE BALBOA	INTERIOR	STAIRWELL	WALL	INTACT	CONCRETE	TAN	Negative	0	mg / cm ²
29	2/3/14 13:33	1.14	Std.	CASA DE BALBOA	MAIN STAIRCASE	NORTH A	HANDRAIL	INTACT	METAL	BLACK	Negative	0	mg / cm ²
30	2/3/14 13:34	1.14	Std.	CASA DE BALBOA	MAIN STAIRCASE	NORTH A	WALL	INTACT	DRYWALL	WHITE	Negative	0	mg / cm ²
31	2/3/14 13:44	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 1A A-105	DOOR	INTACT	WOOD	GRAY	Negative	0	mg / cm ²
32	2/3/14 13:44	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 1A A-105	DOOR FRAME	INTACT	METAL	GRAY	Negative	0	mg / cm ²
33	2/3/14 13:46	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 1A A-105	PARTITION	INTACT	METAL	YELLOW	Negative	0	mg / cm ²
34	2/3/14 13:46	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 1A A-105	FLOOR	INTACT	CONCRETE	GRAY	Negative	0	mg / cm ²
35	2/3/14 13:47	1.16	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 1A A-105	WALL TILE	INTACT	CONCRETE	GRAY	Negative	0.01	mg / cm ²
36	2/3/14 13:54	1.16	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 3A-105	WALL TILE	INTACT	CONCRETE	WHITE	Negative	0.01	mg / cm ²
37	2/3/14 13:56	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 3A-105	FLOOR	INTACT	CONCRETE	BROWN	Negative	0	mg / cm ²
38	2/3/14 13:57	1.54	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 3A-105	WALL	INTACT	DRYWALL	YELLOW	Negative	0	mg / cm ²
39	2/3/14 13:57	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 3A-105	PARTITION	INTACT	METAL	YELLOW	Negative	0.05	mg / cm ²
40	2/3/14 13:58	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 3A-105	DOOR	INTACT	WOOD	YELLOW	Negative	0	mg / cm ²
41	2/3/14 13:58	1.15	Std.	CASA DE BALBOA	MAIN LEVEL	RESTROOM AT 3A-105	DOOR FRAME	INTACT	METAL	YELLOW	Negative	0	mg / cm ²
42	2/3/14 14:02	20	K & L				CALIB. CHECK			RED	Positive	1	mg / cm ²
43	2/3/14 14:03	20	K & L				CALIB. CHECK			RED	Positive	1.1	mg / cm ²
44	2/3/14 14:04	20	K & L				CALIB. CHECK			RED	Positive	1	mg / cm ²

CITY of SAN DIEGO 6982 **4616**
WORK REQUEST FOR ASBESTOS & LEAD MANAGEMENT PROGRAM

RECEIVED
 ENV Svs Dep
 ESEP Div
 JAN 30 14

Department: Public Works Dept#: 2112 Division: AE&P
 Work Requested By: Yovanna Hanna MS#: 908A Phone/Fax: 619-533-5130

Facility Name/Address: Museum of Man 1350 El Prado, San Diego
 Facility #: 000640 Age of Facility: 1915 Plans Attached? YES NO **Target Start: 5/14**

Description of Proposed Work (explain detail of work as well as where in facility):
 The project will provide an accessible path of travel to the entrance of the Museum of Man, and will bring this facility into compliance with current Americans with Disabilities Act (ADA) Standards and California Title 24 regulations. ADA accessibility improvements are required to ensure building facilities are readily accessible to and usable by individuals with disabilities in terms of architecture, design, and communication:

Provide compliant visual fire alarm system, Provide interior handrails, Provide interior railing, Remove exiting non-compliant railing, Provide new walk off mat & frame, Replace front entry doors: Provide new walk off mat and frame, Provide new doors, frame and hardware, Provide tempered glass to match existing, Provide frame color to match existing, Provide half saddle threshold at Lobby, Provide cane detection rail at stairs where head clearance is less than 80", Provide steel transition between ramp and floor, Provide signs at elevator, Provide new drinking fountain.

Have internal order or WBS # opened to ALMP for labor cost. ALMP cost center 2115111111; fund 100000; revenue acct 424071. The following accounting #s are for laboratory, abatement, and/or other NPE. Request estimate if needed.

Accounting Numbers:
 _____ 400848 _____ B13021
 Cost Center Fund G/L # Internal Order/WBS

I have the authority to authorize ALMP to bill hourly inspection labor and laboratory expenses to the accounting numbers above for work related to this project.

Signature Yovanna Hanna Title Assistant Engineer Date 1/28/14

Print Name _____ Div. Analyst Name AEP/Emily Perrone

Send completed form to: **ASBESTOS & LEAD MANAGEMENT PROGRAM** - 9601 Ridgehaven Court, Suite 310, San Diego, CA 92123 or MS 1103-A or Fax (858)492-5089

FOR OFFICE USE ONLY

Date Received 1-30-14 Inspector BRAD BLONDET

Records/Inspection Information _____

Impact on Project ALMP will assist to stabilize lead paint ahead of the contracted ADA upgrades. Please see attached spec language and Memo 2014/1578.

William B. BlonDET 02-06-14 [Signature] 2/6/14
 ASBESTOS & LEAD PROGRAM INSPECTOR DATE ASBESTOS & LEAD PROGRAM MANAGER DATE

Asbestos & Lead Management Program -- (858) 573-1262 (FAX) (858) 492-5089



THE CITY OF SAN DIEGO

MEMORANDUM

DATE: February 06, 2014

TO: Hanna Yovanna, Assistant Engineer Civil, Public Works Department, AE&P Division

FROM: Wm. Brad Blondet, Asbestos & Lead Program Inspector AJ
 via Alan J. Johanns, Asbestos & Lead Program Manager, Environmental Services
 Department, Energy, Sustainability, and Environmental Protection Division

SUBJECT: **Museum of Man ADA Upgrades**

Per your request, the Asbestos and Lead Management Program (ALMP) performed a limited asbestos and lead inspection for the proposed ADA upgrades on February 3rd, 2014 at the Museum of Man (Facility 640) located at 1350 El Prado., San Diego, CA 92104.

The investigation included sampling of suspect materials likely to be disturbed during the ADA renovations.

Asbestos results

Please see the following table of tested suspect material:

Sample #	Material	Asbestos
6982-01	Wall Plaster at Drinking Fountain Location	None Detected

Lead results

Please see the following tables for lead sample results:

Sample #	Material	Lead
5	Black Paint on Exterior South side Handrail	0 mg/cm ²
6	Black Paint on Interior SW Metal Handrail	7.4 mg/cm ²
7	Brown Paint on Interior SW Concrete Stair Steps	0 mg/cm ²
8	White Paint on Interior South Concrete Wall	0 mg/cm ²
9	Gray Paint on Exterior Bridge Metal Handrail	26.3 mg/cm ²

Page 2
Hanna Yovanna
February 6, 2014

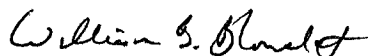
10	Brown Paint on Exterior Bridge Concrete Floor	.21 mg/cm ²
11	Red Saltillo Tile on Bridge Entry Floor	.01 mg/cm ²
12	Blue-Green Paint on Interior Wood Door	15.4 mg/cm ²
13	White Paint on Interior Video Gallery Plaster Wall	0 mg/cm ²
14	White Paint on Interior Video Gallery Plaster Column	.01 mg/cm ²
15	White Paint on Interior Video Gallery Plaster Wall	0 mg/cm ²
16	Lavender Paint on Interior North 1 st Floor Wall	.11 mg/cm ²
17	White Paint on Interior East 1 st Floor Wall	< LOD
18	White Paint on Interior North Janitor Closet Wall	.01 mg/cm ²

Recommendations

Identified lead containing materials highlighted in bold print in this report must be stabilized by a qualified abatement contractor because it is in poor condition and is likely to be disturbed during the renovation. We will be using our "as needed" abatement contractor to accommodate the ADA improvements, and I will get an estimate for the abatement work for you. ALMP will also help to coordinate the removal, and we will perform on-site air monitoring during the abatement to ensure the contractor performs the work safely. Please include ALMP in all construction meetings regarding this project and notify us if the scope of work changes.

If you have any questions regarding these results, please contact me at (858) 492-5086 or WBlondet@sandiego.gov

Sincerely,



Wm. Brad Blondet
ALMP Inspector

Attachments: Lead Results
Asbestos Results

memo2014\1578

ASBESTOS AND LEAD MATERIALS

General

- A. The City of San Diego's Asbestos and Lead Management Program (ALMP) has performed an asbestos and lead inspection for the Museum of Man ADA Upgrades involved with this contract. The Contractor that is awarded this contract shall not include any costs associated with mitigation of the asbestos and lead materials as it will be performed by a separate City contract with the work being performed at the beginning of each project. The results of the testing are summarized in Table 1.

- B. The inspection and sampling performed by the ALMP was conducted without using destructive methods. Therefore, it is possible for the Contractor to encounter additional suspected hazardous materials as the walls are opened during demolition. The Contractor and his staff shall continue looking for suspected materials throughout this process.
 1. If additional suspected asbestos materials or loose and flaky lead paint are identified, stop work in that area and immediately notify the Resident Engineer.
 2. As soon as possible, the City will undertake confirmation of the materials and determine if abatement is required. If abatement is required, the City will conduct such abatement at no cost to the Contractor.
 3. The Contractor shall remain out of that work area if abatement is required. There will be no additional financial compensation to the Contractor during the removal of this ACM or loose and flaky lead paint.

TABLE 1

Environmental Testing Results

The following is a summary of laboratory results for the Museum of Man. The investigation included sampling of suspect materials likely to be disturbed during the ADA renovations:

Asbestos results

Please see the following table of tested suspect material. The complete PLM data can be found on the following pages:

Sample #	Material	Asbestos
6982-01	Wall Plaster at Drinking Fountain Location	None Detected

Lead results

Please see the following tables for lead sample results. The complete XRF data can be found on the following pages:

Sample #	Material	Lead
5	Black Paint on Exterior South side Handrail	0 mg/cm ²
6	Black Paint on Interior SW Metal Handrail	7.4 mg/cm ²
7	Brown Paint on Interior SW Concrete Stair Steps	0 mg/cm ²
8	White Paint on Interior South Concrete Wall	0 mg/cm ²
9	Gray Paint on Exterior Bridge Metal Handrail	26.3 mg/cm²
10	Brown Paint on Exterior Bridge Concrete Floor	.21 mg/cm ²
11	Red Saltillo Tile on Bridge Entry Floor	.01 mg/cm ²
12	Blue-Green Paint on Interior Wood Door	15.4 mg/cm ²
13	White Paint on Interior Video Gallery Plaster Wall	0 mg/cm ²
14	White Paint on Interior Video Gallery Plaster Column	.01 mg/cm ²
15	White Paint on Interior Video Gallery Plaster Wall	0 mg/cm ²
16	Lavender Paint on Interior North 1 st Floor Wall	.11 mg/cm ²
17	White Paint on Interior East 1 st Floor Wall	< LOD
18	White Paint on Interior North Janitor Closet Wall	.01 mg/cm ²



City of San Diego
Lead Safety and Healthy Homes Program



Museum of Man ADA Upgrades

XRF Assay Results

Reading No.	Type	Duration	Mode	Location	Room	Side	Component	Condition	Substrate	Color	Results	PbC	Units
1	SHUTTER CAL	76.11										5.58	cps
2	PAINT	20	K & L				CALIB. CHECK			RED	Positive	1.1	mg / cm ^2
3	PAINT	20	K & L				CALIB. CHECK			RED	Positive	1	mg / cm ^2
4	PAINT	20	K & L				CALIB. CHECK			RED	Positive	1.1	mg / cm ^2
5	PAINT	1.16	Std.	MUSEUM OF MAN	EXTERIOR	ADA Ramp	HANDRAIL	INTACT	METAL	BLACK	Negative	0	mg / cm ^2
6	PAINT	0.39	Std.	MUSEUM OF MAN	INTERIOR	SOUTHWEST STAIR	HANDRAIL	INTACT	METAL	BLACK	Positive	7.4	mg / cm ^2
7	PAINT	1.92	Std.	MUSEUM OF MAN	INTERIOR	SOUTHWEST STAIR	STEPS	INTACT	CONCRETE	BROWN	Negative	0	mg / cm ^2
8	PAINT	3.08	Std.	MUSEUM OF MAN	INTERIOR	SOUTHWEST STAIR	WALL	INTACT	CONCRETE	WHITE	Negative	0	mg / cm ^2
9	PAINT	0.39	Std.	MUSEUM OF MAN	EXTERIOR	BRIDGE	HANDRAIL	POOR	METAL	GRAY	Positive	26.3	mg / cm ^2
10	PAINT	1.92	Std.	MUSEUM OF MAN	EXTERIOR	BRIDGE	FLOOR	INTACT	CONCRETE	BROWN	Negative	0.21	mg / cm ^2
11	PAINT	1.92	Std.	MUSEUM OF MAN	INTERIOR	BRIDGE	SALTILLO TILE	INTACT	CONCRETE	RED	Negative	0.01	mg / cm ^2
12	PAINT	0.39	Std.	MUSEUM OF MAN	INTERIOR	BRIDGE	DOOR	INTACT	WOOD	BLUE-GREEN	Positive	15.4	mg / cm ^2
13	PAINT	2.3	Std.	MUSEUM OF MAN	INTERIOR	VIDEO GALLERY	SOUTH WALL	INTACT	PLASTER	WHITE	Negative	0	mg / cm ^2
14	PAINT	2.7	Std.	MUSEUM OF MAN	INTERIOR	VIDEO GALLERY	COLUMN	INTACT	PLASTER	WHITE	Negative	0.01	mg / cm ^2
15	PAINT	1.15	Std.	MUSEUM OF MAN	INTERIOR	VIDEO GALLERY	NORTH WALL	INTACT	PLASTER	WHITE	Negative	0	mg / cm ^2
16	PAINT	2.3	Std.	MUSEUM OF MAN	INTERIOR	1ST FLOOR DRINKING FOUNTAIN	NORTH WALL	INTACT	PLASTER	LAVENDAR	Negative	0.11	mg / cm ^2
17	PAINT	3.45	Std.	MUSEUM OF MAN	INTERIOR	1ST FLOOR DRINKING FOUNTAIN	EAST WALL	INTACT	PLASTER	WHITE	Negative	< LOD	mg / cm ^2
18	PAINT	3.45	Std.	MUSEUM OF MAN	INTERIOR	1ST FLOOR DRINKING FOUNTAIN	CLOSET WALL	INTACT	PLASTER	WHITE	Negative	0.01	mg / cm ^2
19	PAINT	20	K & L				CALIB. CHECK			RED	Positive	1.1	mg / cm ^2
20	PAINT	20	K & L				CALIB. CHECK			RED	Positive	1	mg / cm ^2
21	PAINT	20	K & L				CALIB. CHECK			RED	Positive	1	mg / cm ^2



H.M. Pitt Labs, Inc.

2434 Southport Way · Suite L · National City, CA 91950

Lab Number: 133429-171781

Tel: 619-474-8548 · Fax: 619-474-6128

Company:

City of San Diego Environmental Services
Department
9601 Ridgehaven Court, Suite 310
San Diego, CA 92123

Date Entered: 02/04/2014

Analyzed By: Lee Pitt

Date Analyzed: 02/04/14

Customer PO / Claim#:

Contract Number:

Job Site: Project #6982

Date Sampled

Who Sampled

02/04/2014

Wm. Brad Blondet

Lab Notes: 72 hr TAT

POLARIZED LIGHT MICROSCOPY (PLM) ANALYSIS REPORT - EPA-600/M4-82-020

Analysis Number: 133429-1

Customer Number: 6982-01

Classification:

Description: Janitor's Closet Wall / Plaster

Results:

- a. Non-Asbestos: 2% Cellulose Fibers in White Wallboard / Plaster
- b. Non-Asbestos: Non-Fibrous Gray Plaster

- All samples tested as submitted to the lab. H.M. PITT LABS, INC. does not assume responsibility for the accuracy of the information submitted with the samples unless done by an employee of H.M. PITT LABS, INC.
- These test results relate only to the sample(s) identified above.
- This report may not be used to claim endorsement by NVLAP or any agency of the Federal Government.
- This report shall not be reproduced, except in full, without written approval of H.M. Pitt Labs, Inc.
- Samples are archived for 2 years from date of receipt and will be disposed of properly following this period.
- Quantitative value is based on PLM CVES (Calibrated Visual Estimates) with a detection limit of 1%.

APPROVED BY:

LELAND S. PITT, CIH

Dated: 02/04/2014

REVIEWED BY:

Ginger Russ

Page 1 of 1



CITY OF SAN DIEGO
Environmental Services Department
ALMP/LSHHP - Laboratory Submittal

133429



Project # 6982 Submitted by: Wm. Brad Blondet Date: 2/13/2014 Page 1 of 1

LAB SUBMITTED TO: HM Pitt Labs

TURNAROUND TIME:
 2 HOUR 24 HOUR 48 HOUR 72 HOUR 5 DAY OTHER:

The receiving Laboratory is required to complete the following:

1. All invoices are to be sent to: Attn. Alan Johannis- City of San Diego – Environmental Services Department, 9601 Ridgehaven Court, Suite 310 San Diego, CA 92123
2. Lab reports/invoices are to contain the Project Number listed above. Do not include Purchase Order Numbers on Invoices
3. Email report to: WBlondet@sandiego.gov

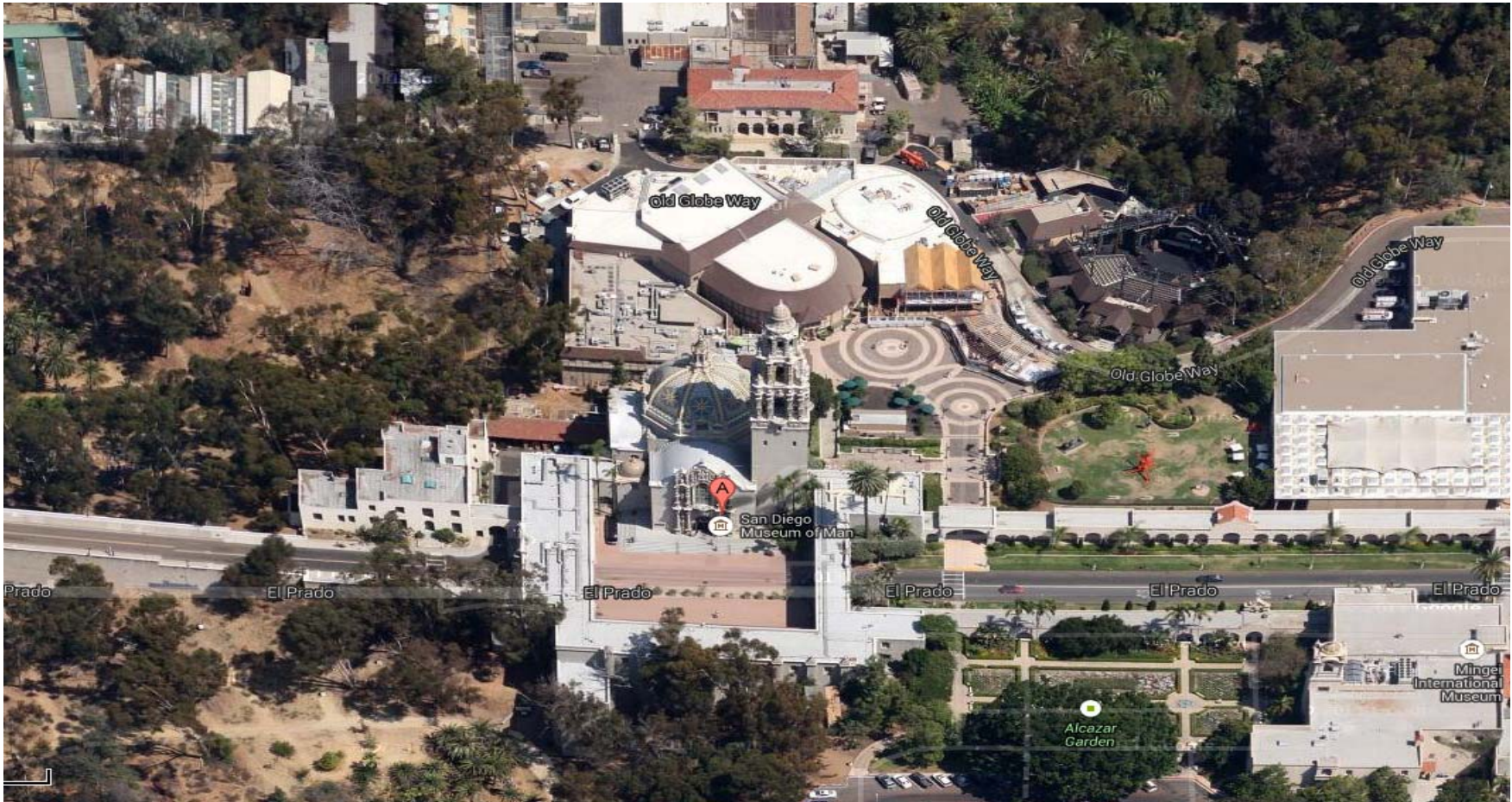
Lab Number	Sample No.	Location	Media	Time On/Off	Flow	Volume	Analyses Requested
Sample # Prefix: <u>6982</u>	<u>01</u>	<u>Janitor's Closet wall/Plaster</u>	<u>Ab Bulk</u>	<u>- / -</u>	<u>-</u>	<u>-</u>	<u>PLM</u>

NOTES:

Relinquished by: <u>Wm. Brad Blondet</u> <u>William B. Blondet</u>	Relinquished by: <u>Allyson Johnson</u>
Date/Time: <u>2-14-14</u>	Date/Time: <u>2/14/14 10:56 am</u>
Received by: <u>cb</u>	Received by: _____
Date/Time: _____	Date/Time: _____

APPENDIX G
ADJACENT PROJECTS

**APPENDIX G
ADJACENT PROJECT**



**Museum of Man
1350 El Prado
San Diego, CA 92101**

ATTACHMENT F
INTENTIONALLY LEFT BLANK

AFFIDAVIT OF DISPOSAL

WHEREAS, on the _____ DAY OF _____, 2____ the _____ undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

Casa De Balboa and Museum of Man ADA Barrier Removal

(Name of Project)

as particularly described in said contract and identified as Bid No. **K-14-1199-DBB-3** SAP No. (WBS/IO/CC) **B-13018, B-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 _____, _____.

by _____ Contractor

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

City of San Diego

CITY CONTACT: Damian Singleton, Contract Specialist, Email: dsingleton@sandiego.gov
Phone No. (619) 533-3482 - Fax No. (619) 533-3633



ADDENDUM "A"

FOR

CASA DE BALBOA AND MUSEUM OF MAN ADA BARRIER REMOVAL

BID NO.:	K-14-1199-DBB-3
SAP NO. (WBS/IO/CC):	B-13018, B-13021
CLIENT DEPARTMENT:	1714
COUNCIL DISTRICT:	3
PROJECT TYPE:	BT

BID DUE DATE:

2:00 PM

MAY 2, 2014

CITY OF SAN DIEGO

PUBLIC WORKS CONTRACTING GROUP

1010 SECOND AVENUE, SUITE 1400, MS 614C

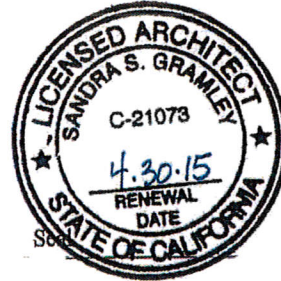
SAN DIEGO, CA 92101


ENGINEER OF WORK

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


1) Registered Engineer/Architect

4.18.14
Date




2) For City Engineer

4/18/14
Date



A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders 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. CLARIFICATIONS

There are 2 sheets numbered 37593-12-D in the set and 1 of those 2 sheets is being **DELETED** by this Addendum.

C. VOLUME 1

1. To NOTICE INVITING BIDS, page 4, item 4, SUBCONTRACTING PARTICIPATION PERCENTAGES, **DELETE** in its entirety and **SUBSTITUTE** with the following.

4. SUBCONTRACTING PARTICIPATION PERCENTAGES:

4.1. 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 | 3.1% |
| 2. ELBE participation | 8.1% |
| 3. Total mandatory participation | 11.2% |

2. To ATTACHMENT A, page 28, SCOPE OF WORK, Item 2, CONSTRUCTION COST, **DELETE** in its entirety and **SUBSTITUTE** with the following:

2. CONSTRUCTION COST: The City's estimated construction cost for this contract is **\$730,500.00.**

3. To ATTACHMENT E, page 39, SUPPLEMENTARY SPECIAL PROVISIONS, Section 7 - Responsibilities of the Contractor, Subsection 7-3.2.5, "Contractors Builders Risk Property Insurance", **DELETE** in its entirety.

4. To ATTACHMENT E, page 42, SUPPLEMENTARY SPECIAL PROVISIONS, Section 7 - Responsibilities of the Contractor, Subsection 7-3.5.5, "Builders Risk Endorsements", **DELETE** in its entirety.

D. PLANS

1. To Drawings Numbered 37593-01-D and 37593-06-D for Casa De Balboa, **DELETE** in their entirety and **REPLACE** with pages 5 through 6 of this Addendum.
2. **ADD** Drawing Numbered 37593-10-D page 7 of this Addendum.
3. To Drawing Numbered 37593-12-D for Casa De Balboa **DELETE THE DUPLICATE** sheet in its entirety with page 8 of this Addendum.
4. **ADD** Drawings Numbered 37593-24-D through 37593-27-D pages 9 through 12 of this Addendum.
5. To Drawings Numbered 37594-01, 37594-04-D, 37594-10-D, and 37594-11-D for Museum of Man, **DELETE** in their entirety and **REPLACE** with pages 13 through 16 of this Addendum.

James, Nagelvoort, Director
Public Works Department

Dated: *April 21, 2014*
San Diego, California

JN/RT/lsl/lji



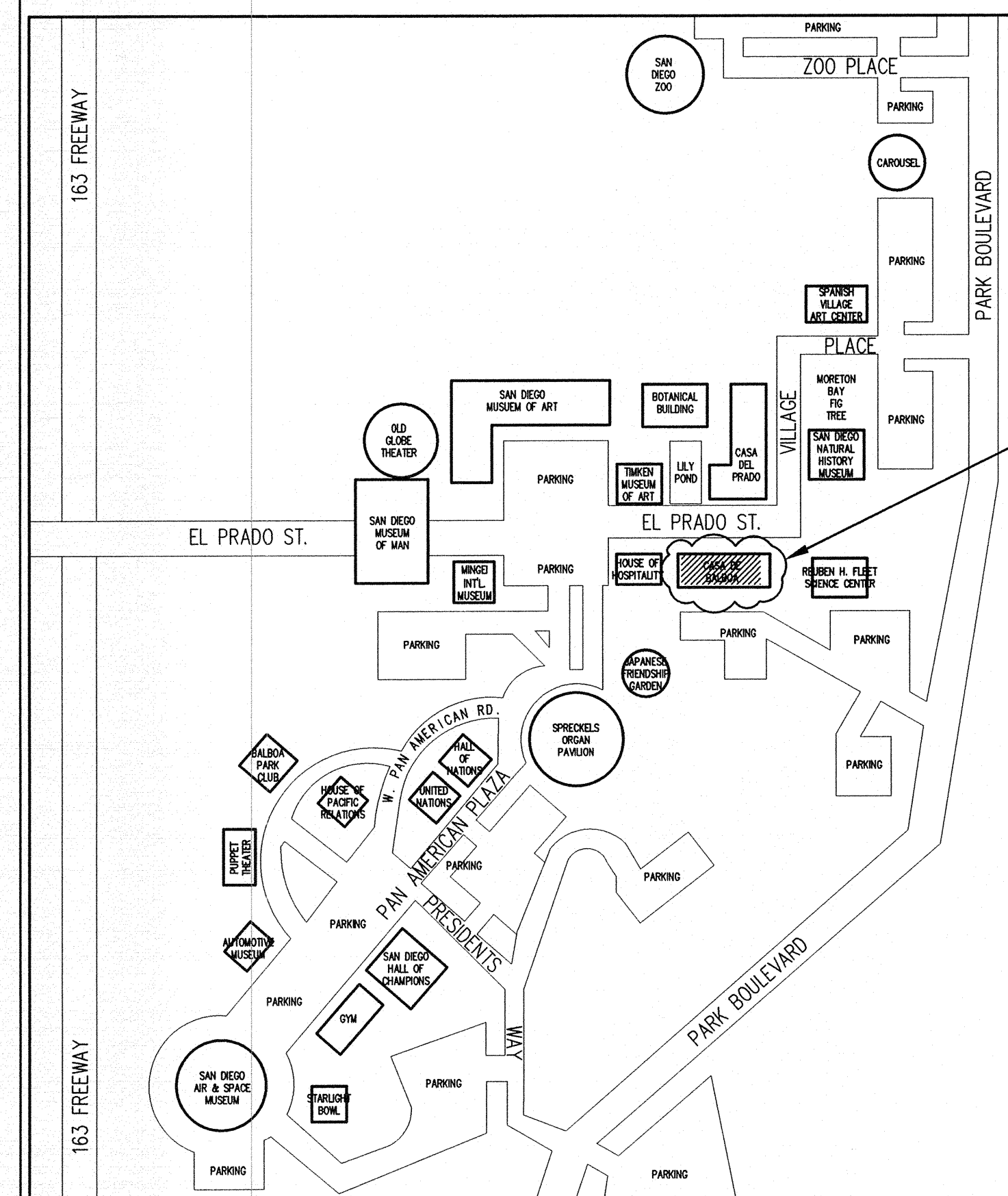
BALBOA PARK ADA BARRIER REMOVAL CASA DE BALBOA

1649 EL PRADO, SAN DIEGO, CA 92101

SHEET INDEX

GENERAL	
1. G-001	TITLE SHEET, SHEET INDEX AND DIRECTORY
2. G-002	GENERAL NOTES, LEGEND & ABBREVIATIONS
ARCHITECTURAL	
3. A-101	LOWER LEVEL OVERALL PLAN
4. A-102	MAIN LEVEL OVERALL PLAN
5. A-103	LOWER LEVEL & 2ND FLOOR ENLARGED PLANS
6. A-104	MAIN STAIRCASE PLANS & ELEVATIONS
7. A-105	MAIN LEVEL ENLARGED PLANS
8. A-501	INTERIOR ELEVATIONS - RESTROOMS
9. A-502	INTERIOR ELEVATIONS - RESTROOMS
10. A-503	SIGNAGE DETAILS
11. A-504	HARDWARE SCHEDULES
12. A-505	SIGNAGE PLAN - LOWER LEVEL
13. A-506	SIGNAGE PLAN - UPPER LEVEL
PLUMBING	
14. P-01	GENERAL NOTES & LEGENDS
15. P-1.0	PLUMBING DEMO FLOOR PLAN
16. P-1.1	PLUMBING FLOOR PLAN
17. P-1.2	PLUMBING FLOOR PLAN
18. P-1.3	PLUMBING FLOOR PLAN
ELECTRICAL	
19. E-001	SYMBOLS & NOTES
20. E-101	LOWER LEVEL PLAN
21. E-102	MAIN LEVEL PLAN
22. E-103	ENLARGED FLOOR PLANS
23. E-104	PANEL SCHEDULES
ADDENDUM SHEETS	
24. C-1.0	PED RAMP EXISTING CONDITIONS & KEY MAP
25. C-1.1	PED RAMP DEMO & NEW PLANS
26. C-1.2	PED RAMP DEMO & NEW PLANS
27. C-2.1	PED RAMP DETAILS

LOCATION MAP



AREA OF WORK

PARK CONSTRUCTION INSPECTION STAGES AND INSPECTION TEAM

PARK INSPECTION TEAM

- SITE SUPERINTENDENT (CONTRACTOR/DEVELOPER'S REPRESENTATIVE)
- CONTRACTOR(S)
- RESIDENT ENGINEER FROM FIELD ENGINEERING DEPARTMENT
- CITY PROJECT MANAGER
- DESIGN CONSULTANT
- PARK AND RECREATION DISTRICT MANAGER
- PARK AND RECREATION ASSET MANAGER

PARK CONSTRUCTION INSPECTION STAGES, AS REQUIRED BY THE CITY, MAY INCLUDE:

- PRE-CONSTRUCTION MEETING.
- PROJECT CONSTRUCTION 90 PERCENT COMPLETE (DEVELOP PUNCH LIST AND SUBMIT RED-LINE AS-BUILTS).
- FINAL WALK-THROUGH, ACCEPTANCE BY THE CITY. CONTRACTOR TO SUBMIT FINAL APPROVED AS-BUILTDRAWINGS TO THE CITY.

PROJECT DIRECTORY

CLIENT/LEGAL OWNER

CITY OF SAN DIEGO
PUBLIC WORKS DEPARTMENT
ENGINEERING & CAPITAL PROJECTS
600 B STREET 8TH FLOOR,
SAN DIEGO, CA 92101
COSELYN GOODRICH, PROJECT MANAGER
(619) 533-4633
YOVANNA HANNA, PROJECT ENGINEER
(619) 533-5130

MECHANICAL ENGINEER

BENDER DEAN ENGINEERING
438 CAMINO DEL RIO SOUTH, SUITE 217
SAN DIEGO, CA 92108
PH: (619) 704-1900
FAX: (858) 427-1608
JOHN PERALES

ELECTRICAL ENGINEER

TURPIN & RATTAN ENGINEERING, INC.
4719 PALM AVENUE
LA MESA, CA 91941
PH: (619) 466-6224
FAX: (619) 466-6233
KARL PORTS

ARCHITECT

PLATT/WHITELAW ARCHITECTS, INC.
4034 30TH STREET
SAN DIEGO, CA 92104
PH: (619) 546-4326
FAX: (619) 546-4350
SANDRA GRAMLEY, PROJECT ARCHITECT

DESCRIPTION OF WORK

VARIOUS VOLUNTARY ACCESSIBILITY BARRIER REMOVALS PER CBC §1134.B.2.1 INCLUDING:

- INTERIOR PATH OF TRAVEL IMPROVEMENTS TO STAIRS AND RAMPS.
- RECONFIGURE RESTROOMS TO PROVIDE COMPLIANT ACCESSIBILITY.
- DOORS AND DOOR HARDWARE REPLACEMENT
- INSTALLATION OF NEW HI-LO DRINKING FOUNTAINS
- DIRECTIONAL AND IDENTIFICATION SIGNAGE
- SERVICE COUNTER AT DOE CLASSROOM
- EXTERIOR PATH OF TRAVEL IMPROVEMENTS

CITY OF SAN DIEGO POLICY COMPLIANCE

- BACKFLOW DEVICE IS EXISTING AND SHALL BE PROTECTED AS PART OF THIS PROJECT
- COMPLY WITH HAZARDOUS MATERIALS PER CITY OF SAN DIEGO BULLETIN 116
- COMPLY WITH CONSTRUCTION AND DEMOLITION DEBRIS PER CITY BULLETIN 119
- COMPLY WITH STORM WATER REQUIREMENTS PER CITY OF SAN DIEGO STORM WATER MANAGEMENT PLAN AS DETERMINED BY FORM DS-560. PROJECT DOES NOT DISTURB MORE THAN 1 ACRE AND CREATES LESS THAN 5000 S.F. OF IMPERVIOUS SURFACE. PROJECT DOES NOT REQUIRE A N.P.D.E.S. PERMIT. PROJECT WILL REQUIRE CONSTRUCTION B.M.P. PER SECTION IV OF THE CITY OF SAN DIEGO'S STORM WATER STANDARDS MANUAL.

UNDERGROUND UTILITIES

BEFORE EXCAVATING, VERIFY THE LOCATION OF UNDERGROUND UTILITIES. AT LEAST THREE (3) WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR SHALL REQUEST A MARKOUT OF UNDERGROUND UTILITIES BY CALLING THE BELOW LISTED REGIONAL NOTIFICATION CENTER FOR AN INQUIRY IDENTIFICATION NUMBER:

UNDERGROUND SERVICE ALERT 800-422.4133
(GAS, ELECTRIC, TELEPHONE, WATER, SEWER, LIGHTING & T.V.)

CITY IRRIGATION SYSTEMS & WIRING 619-533.5783

CITY FACILITIES MAINTENANCE DIVISION 619-525-8500

RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED REASONABLE CARE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ARCHITECT OR ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

Sandra S. Gramley
SANDRA S. GRAMLEY C-21703
PLATT/WHITELAW ARCHITECTS INC.

February 7, 2014
DATE

REMODELING NOTES

DESCRIPTION OF WORK:

THE WORK SHALL INCLUDE THE FURNISHING OF ALL NECESSARY MATERIALS AND EQUIPMENT, LABOR FOR DEMOLITION, CUTTING AND PATCHING AND RELATED WORK REQUIRED AS PREPARATION FOR TENANT IMPROVEMENTS. NEW WORK IS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. WHERE A SPECIFIC ITEM IS NOT SPECIFIED OR SPECIFICALLY SHOWN, THE MATERIAL AND INSTALLATION SHALL MATCH THE EXISTING ADJACENT WORK. UPON COMPLETION OF THE WORK PERFORMED UNDER THE CONTRACT DOCUMENTS, LEAVE THE WORK BLENDED IN WITH AND BONDED OR SECURED TO EXISTING WORK. PATCHED AND REPAIRED AREAS SHALL BE IN TRUE PLANES WITH CLEAR LINES, SHARP CORNERS, TIGHT JOINTS, AND OTHER REQUIREMENTS AS REQUIRED FOR NEW CONSTRUCTION OF RESPECTIVE TRADES.

SEQUENCING AND COORDINATION:

SOME OF THE EXISTING SPACES TO BE REMODELED ARE IN USE AND PART OF THE AREA MUST REMAIN IN USE DURING DEMOLITION AND CONSTRUCTION. ALL EXISTING FACILITIES SHALL BE PROTECTED FROM DUST AND WATER DURING DEMOLITION, RECONSTRUCTION, AND RENOVATION. THE CONTRACTOR SHALL COORDINATE PHASING OF WORK WITH THE RESIDENT ENGINEER TO ALLOW FOR EXISTING FACILITIES TO BE KEPT OPERATING AND PROTECTED.

PHASING OF RESTROOM RENOVATIONS MUST BE UNDERTAKEN SUCH THAT ADEQUATE FACILITIES REMAIN AVAILABLE FOR USE BY THE PUBLIC. WHERE ADEQUATE FACILITIES CANNOT BE MAINTAINED ON SITE, APPROPRIATE ARRANGEMENTS SUCH AS PORTABLE FACILITIES OR DIRECTIONAL SIGNAGE TO GUIDE THE PUBLIC TO AVAILABLE FACILITIES MUST BE PROVIDED, TO THE SATISFACTION OF THE RESIDENT ENGINEER.

CONCEALED AND UNFORESEEN CONDITIONS

THE CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL UNFORESEEN AND CONCEALED CONDITIONS. THE REQUIRED PREBID INSPECTION BY THE CONTRACTOR SHALL THEREFORE BE CONSIDERED ACCEPTANCE BY THE CONTRACTOR OF ALL EXISTING CONDITIONS. THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ADEQUATE FUNDING FOR SUCH UNFORESEEN CONDITIONS AND ALL DEMOLITION, REPAIRS AND PATCHING OF SUCH UNFORESEEN CONDITIONS SHALL BE EXECUTED AT NO EXTRA COST TO THE OWNER.

EXTENT OF WORK

WHERE EXISTING ITEMS OF WORK ARE TO BE CUT ALTERED OR REMOVED OR OTHERWISE WORKED UPON, CONTINUE REMOVAL AND PREPARATORY WORK UNTIL SOUND, SOLID AND FIRM SURFACES, STRUCTURAL OR SUPPORTING MEMBERS OR UNDERLAYMENT ARE CLEAN AND FULLY EXPOSED.

CONSTRUCTION & BUILDING CODES

APPLICABLE BUILDING CODES:

- 2010 CA BLDG. STDS. ADMIN. CODE TITLE 24 OF CALIFORNIA CCR PART 1
- 2010 CALIFORNIA BUILDING CODE TITLE 24 OF CALIFORNIA CCR PART 2
- 2010 CALIFORNIA ELECTRICAL CODE TITLE 24 OF CALIFORNIA CCR PART 3
- 2010 CALIFORNIA MECHANICAL CODE TITLE 24 OF CALIFORNIA CCR PART 4
- 2010 CALIFORNIA PLUMBING CODE TITLE 24 OF CALIFORNIA CCR PART 5
- 2010 CALIFORNIA ENERGY CODE TITLE 24 OF CALIFORNIA CCR PART 6
- 2010 CALIFORNIA FIRE CODE TITLE 24 OF CALIFORNIA CCR PART 9

ADDITIONAL APPLICABLE STANDARDS AND SPECIFICATIONS:

- 2012 GREENBOOK - STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION INCLUDING THE CITY OF SAN DIEGO WHITEBOOK, 2012 EDITION.
- CONSULTANT'S GUIDE TO PARK PLANNING AND DEVELOPMENT, 2011 EDITION
- CITY OF SAN DIEGO STANDARD DRAWINGS, INCLUDING ALL REGIONAL STANDARD DRAWINGS, 2012
- 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND DEPARTMENT OF JUSTICE 28 CFR PARTS 35 & 36

LEGAL DESCRIPTION

NO ASSESSOR'S PARCEL NUMBER AVAILABLE - SITE IS NON-PARCELLED GOVERNMENT LAND.

CODE ANALYSIS

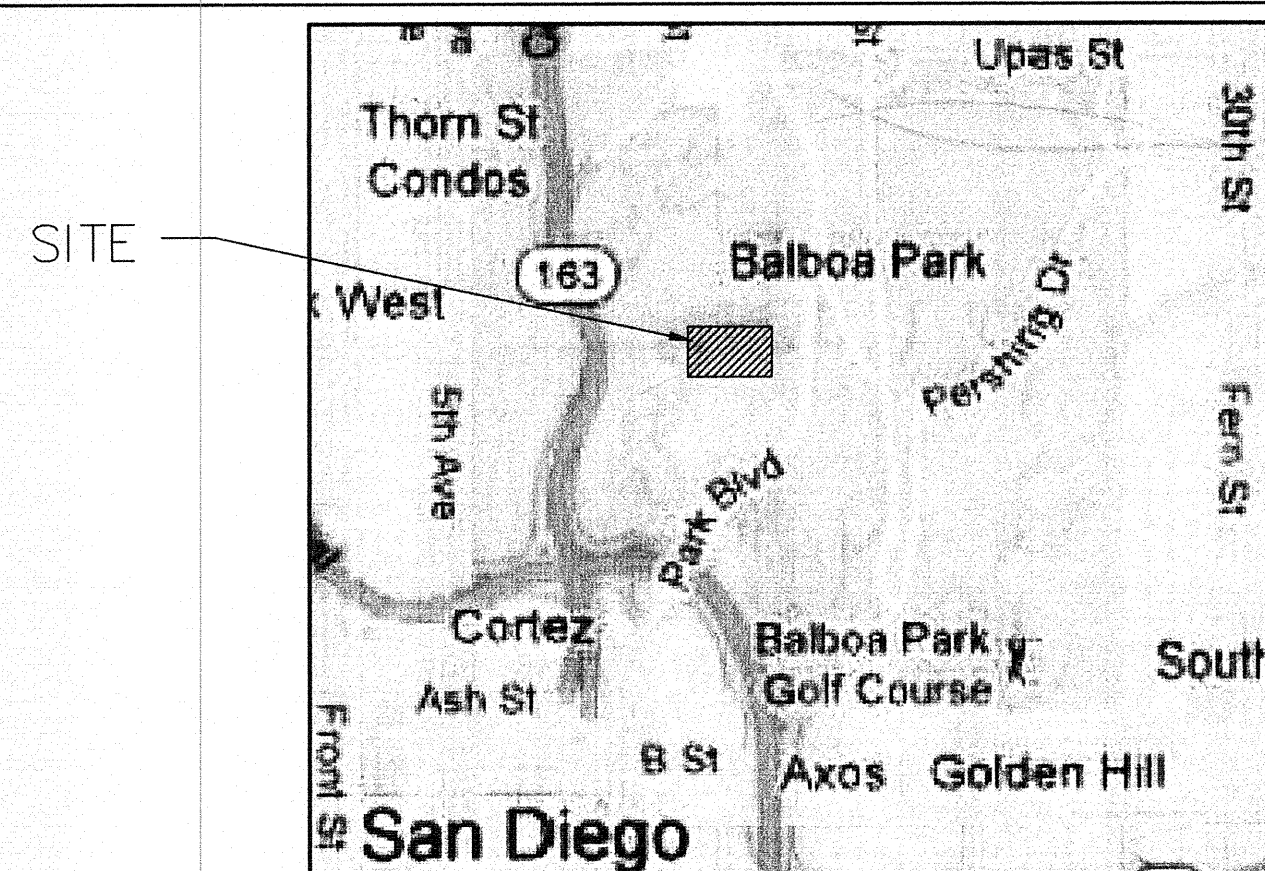
CODE CLASSIFICATIONS:

- OCCUPANCY TYPE A-3, B, E
- TYPE OF CONSTRUCTION III-B
- CONSTRUCTED 1978
- NOT SPRINKLERED

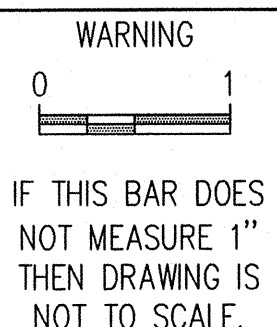
CITY OF SAN DIEGO
PUBLIC WORKS PROJECT



VICINITY MAP



CONSTRUCTION CHANGE / ADDENDUM			
CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.
A	4/18/14	1, 6 & 10, 24, 25, 26, 27	



Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350
PWA PROJECT #: 0409

BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA

SHEET TITLE: TITLE SHEET, SHEET INDEX & DIRECTORY	SHEET NUMBER: G-001
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CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 1 OF 27 SHEETS
WBS B-13018

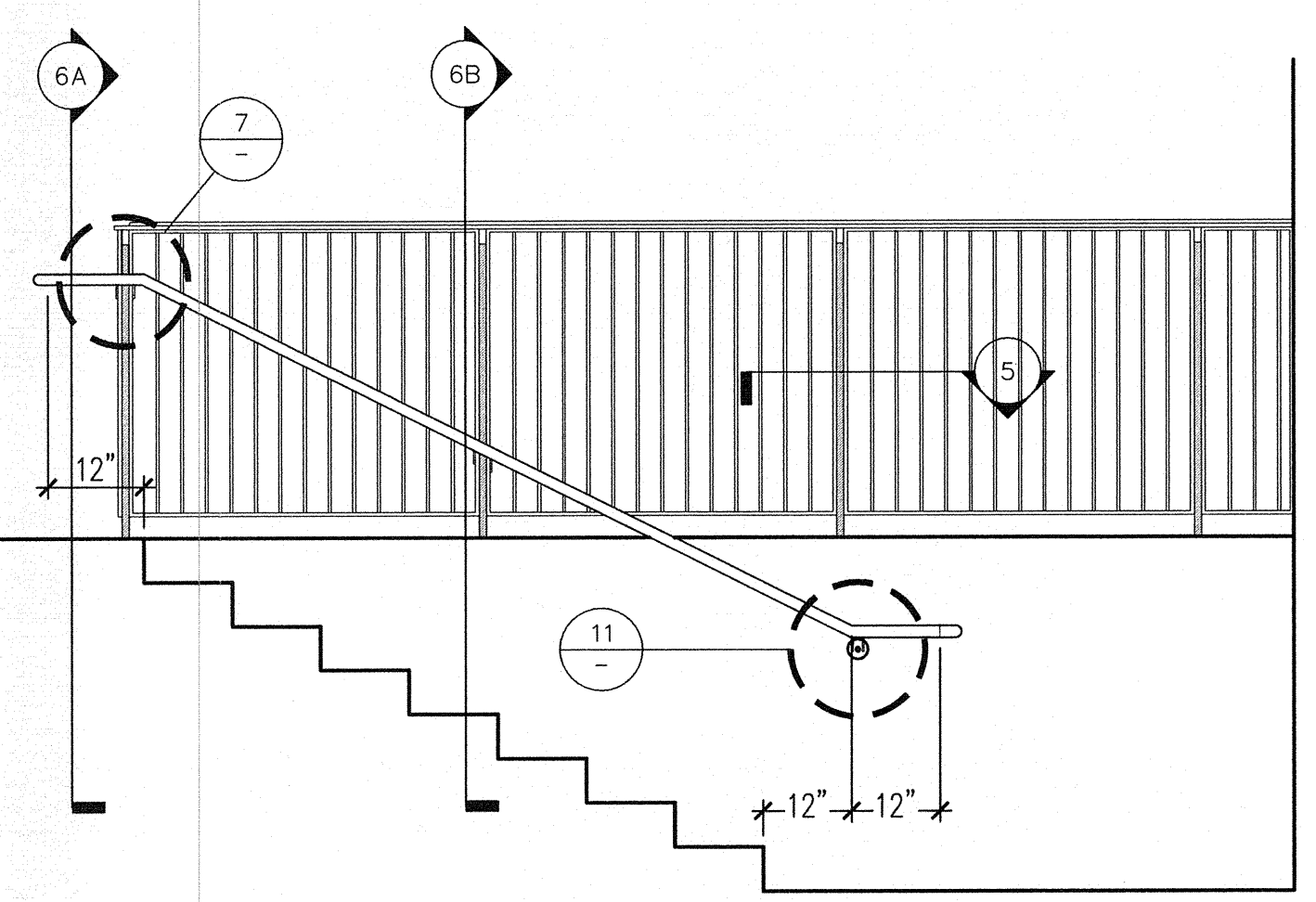
FOR CITY ENGINEER *[Signature]* DATE 4/18/14
ALI DARVISHI SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/SR	[Signature]	2/7/14	
ADDENDUM A	SG/SR	[Signature]	4/18/14	

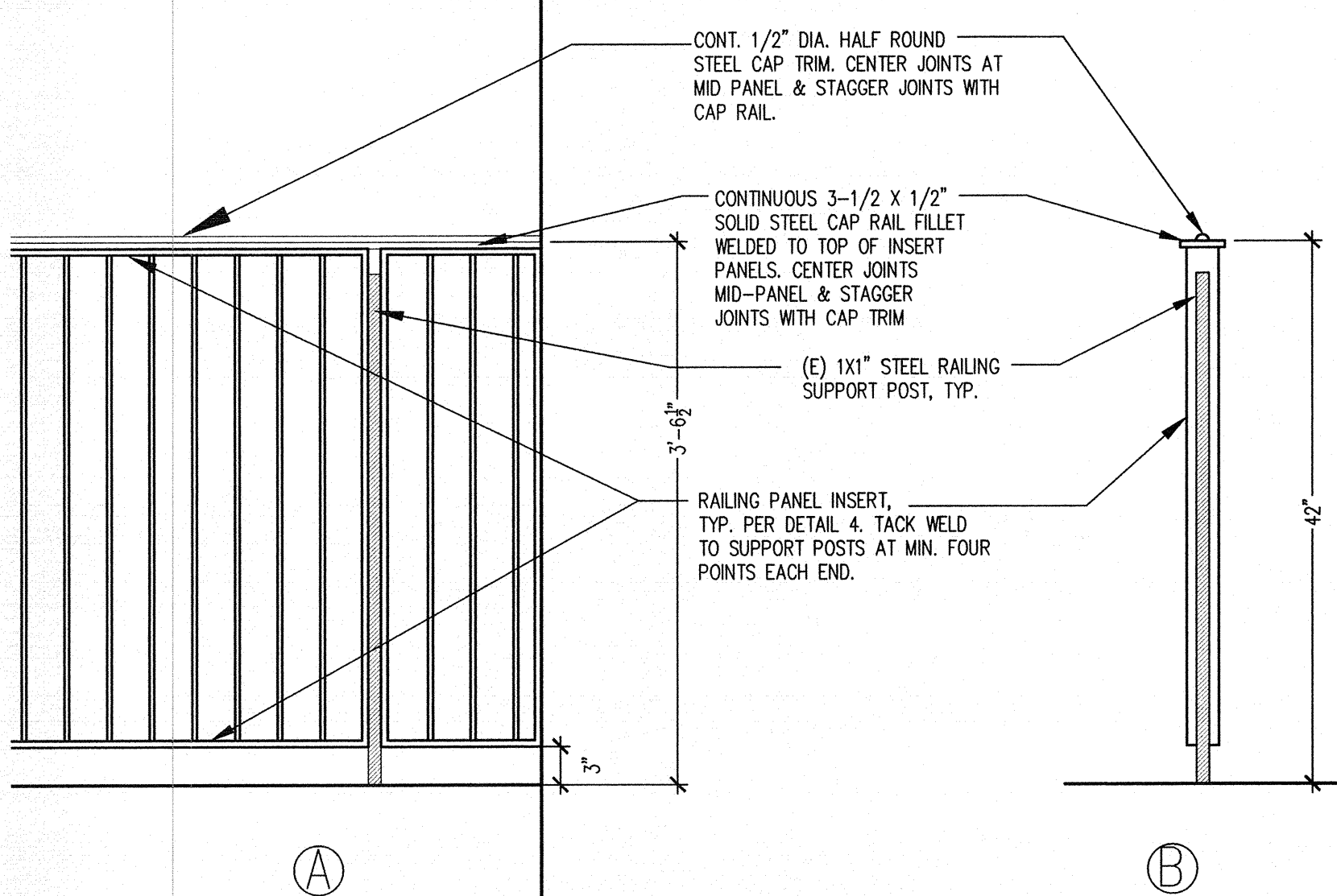
CONTRACTOR DATE STARTED 37593-01-D
INSPECTOR DATE COMPLETED

ADDENDUM A: DESCRIPTION OF WORK, SHEET INDEX & PAGE COUNT

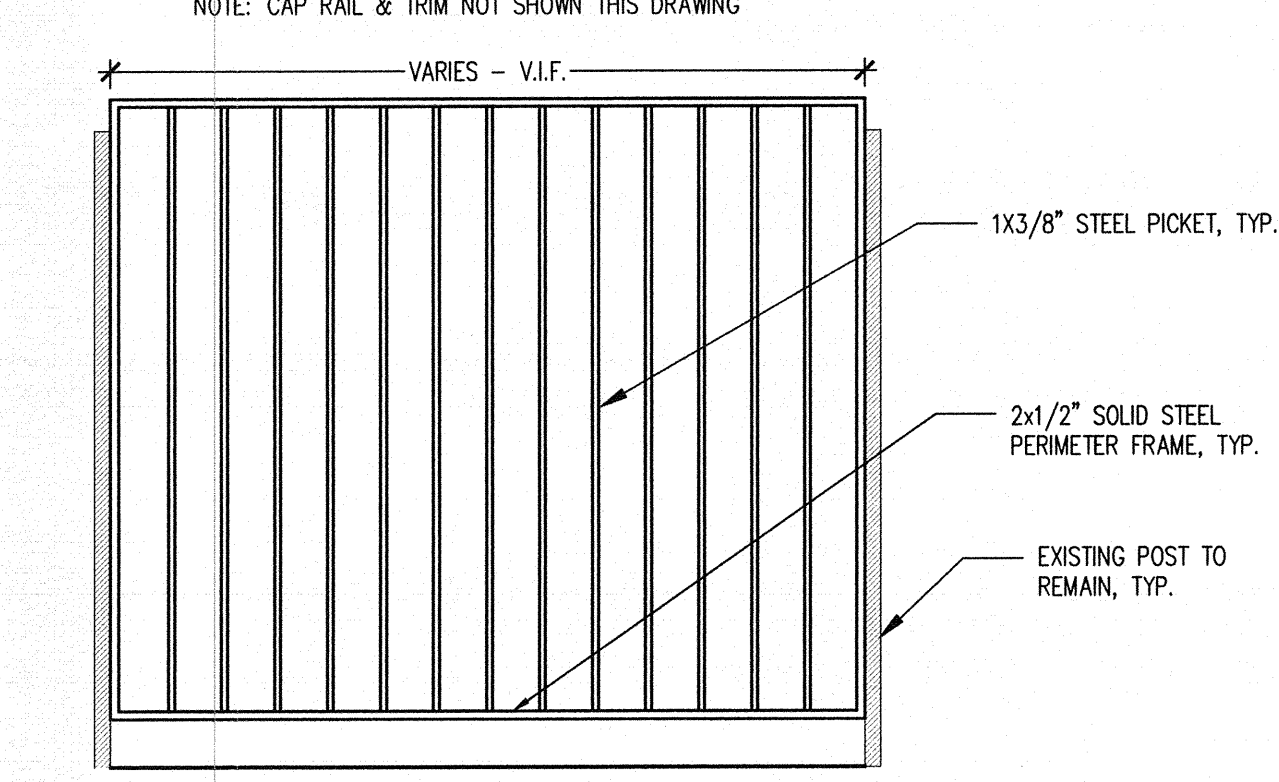
4/16/09 Casa de Balboa ADA Barrier Removal - Casa de Balboa (A) Sheets 1-104 MAIN STAIRCASE PLANS & ELEVATIONS.dwg 04/16/2014 14:58



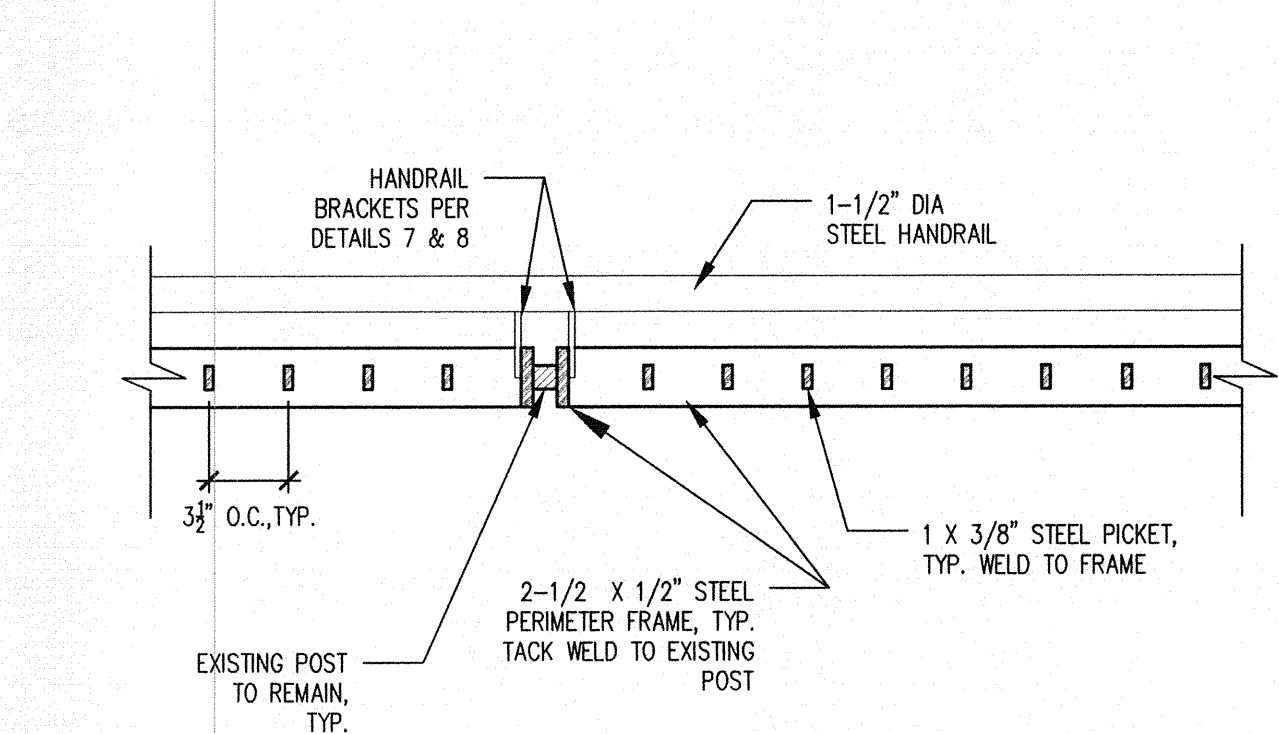
2 MAIN STAIRCASE TYPICAL RAILING ELEVATION
1/2" = 1'-0"



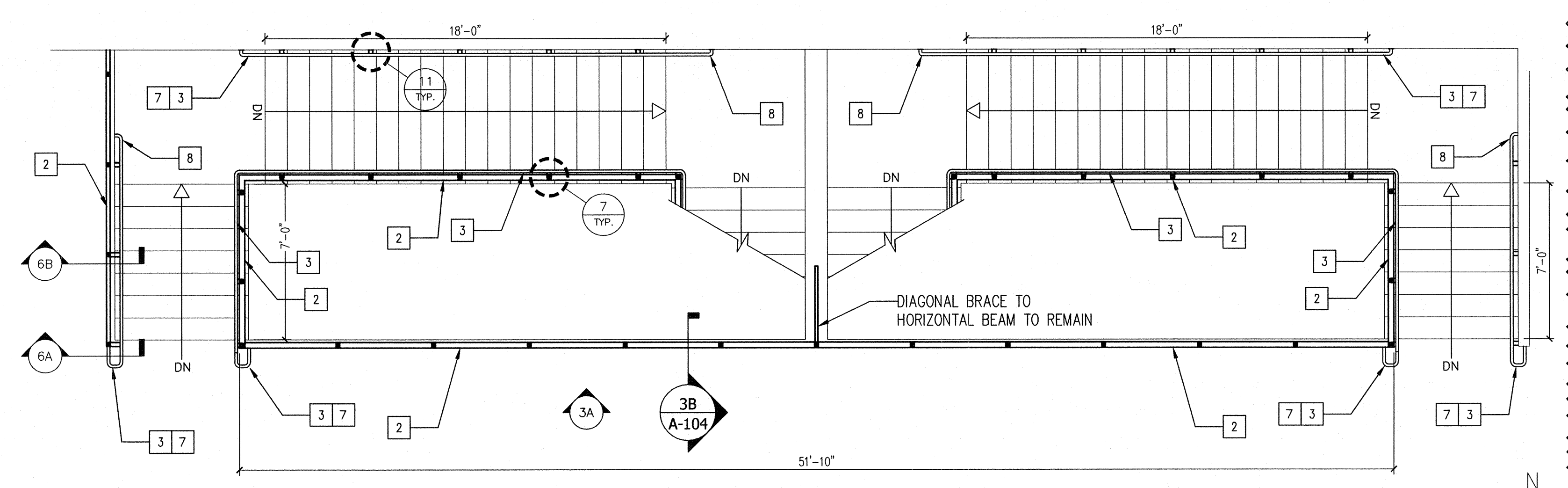
3 MAIN STAIRCASE TYPICAL RAILING ELEVATION & SECTION
1" = 1'-0"



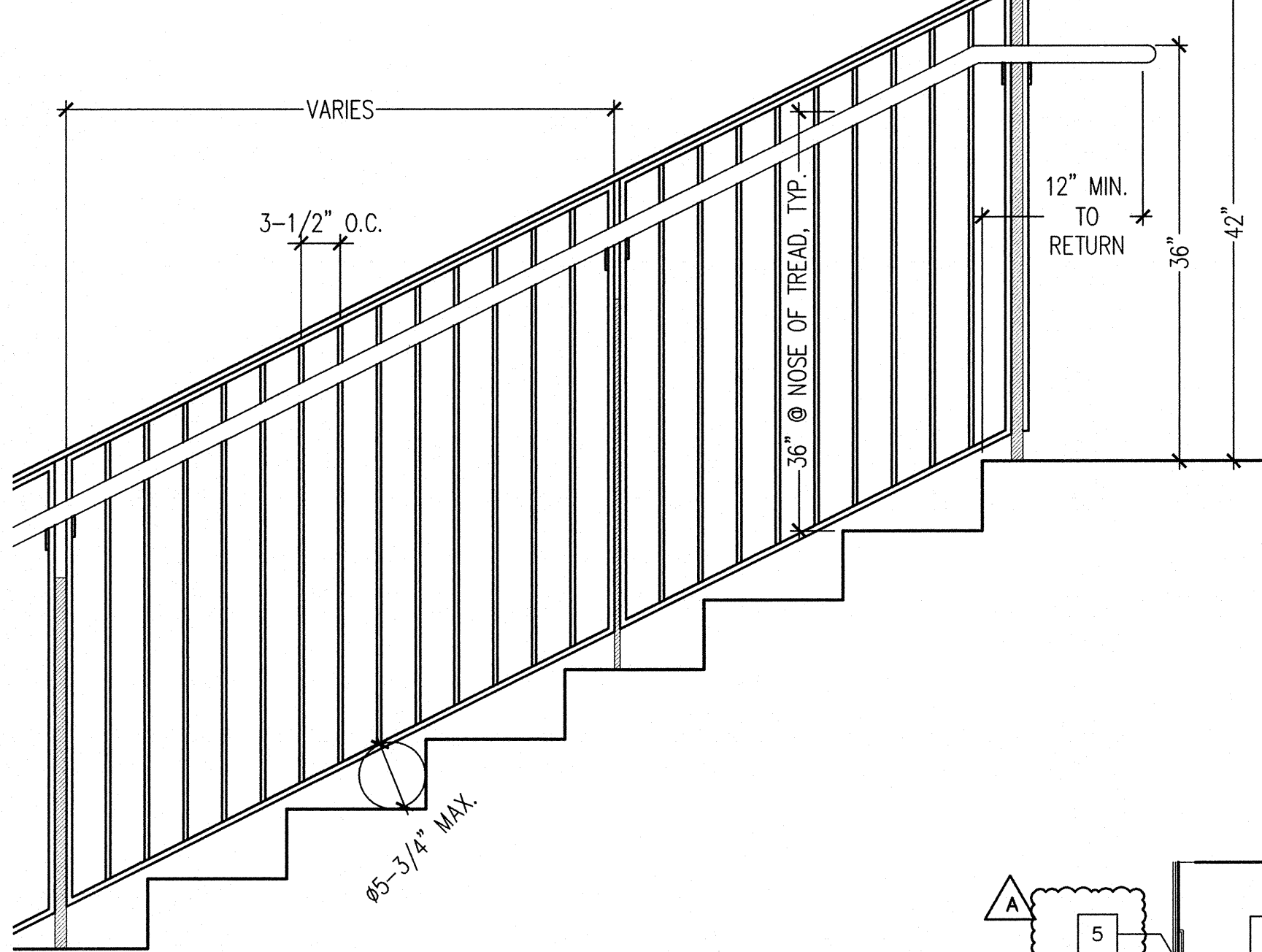
4 TYPICAL RAILING PANEL INSERT
1" = 1'-0"



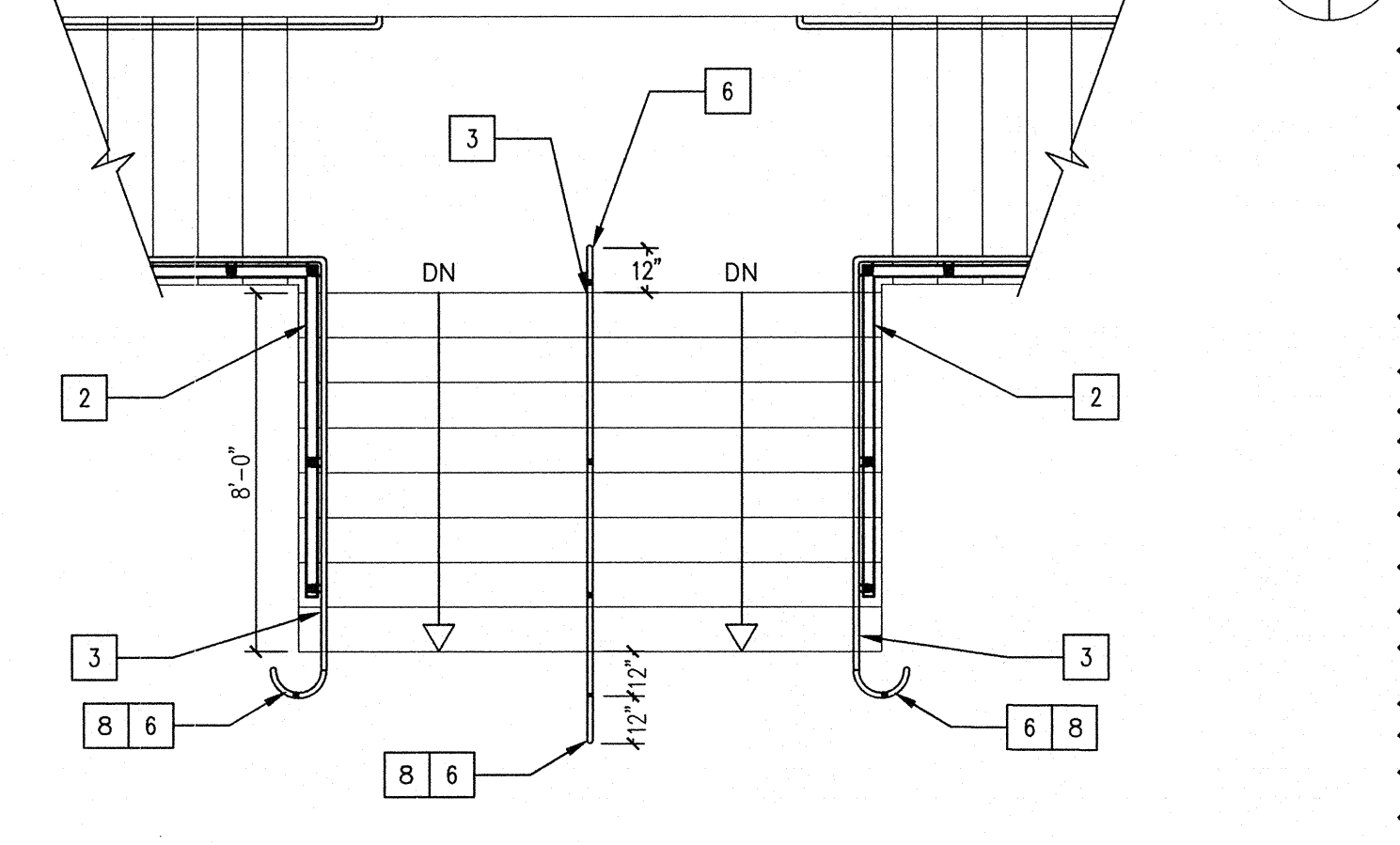
5 PANEL INSERT DETAIL
1-1/2" = 1'-0"



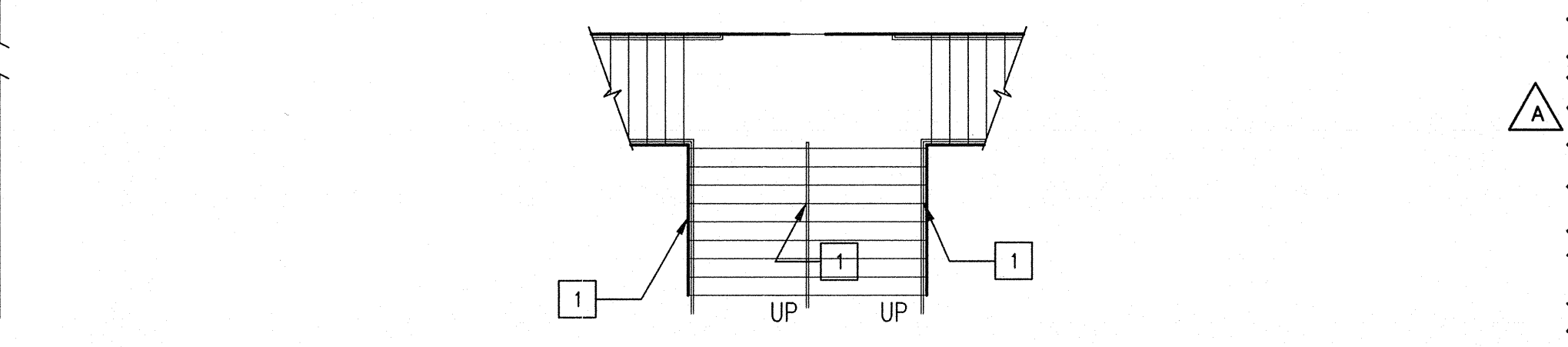
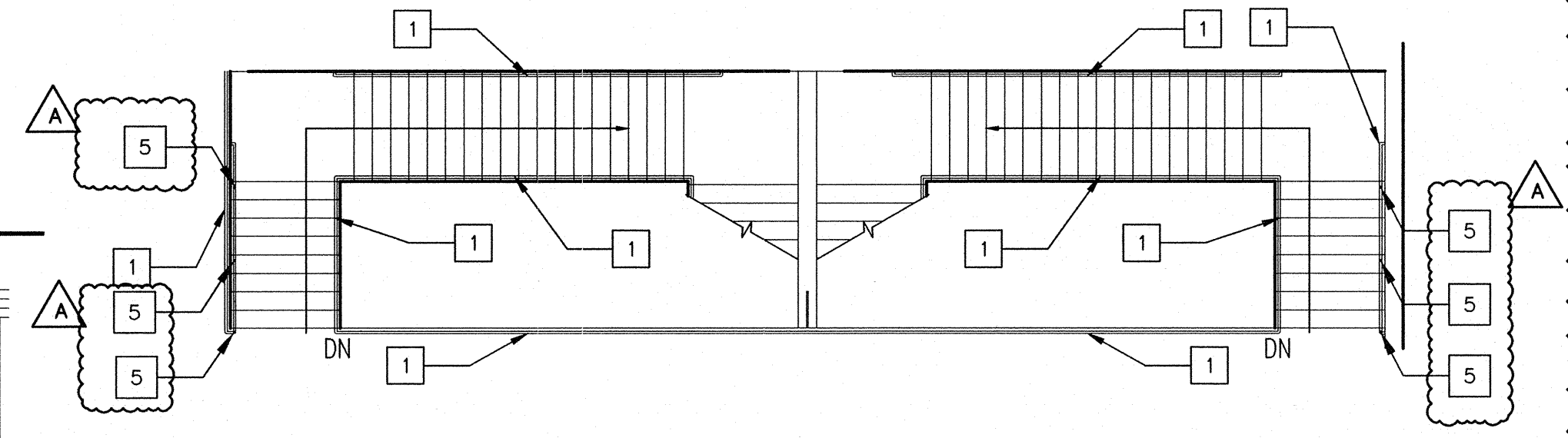
1A UPPER MAIN STAIRCASE NEW PLAN
1/4" = 1'-0"



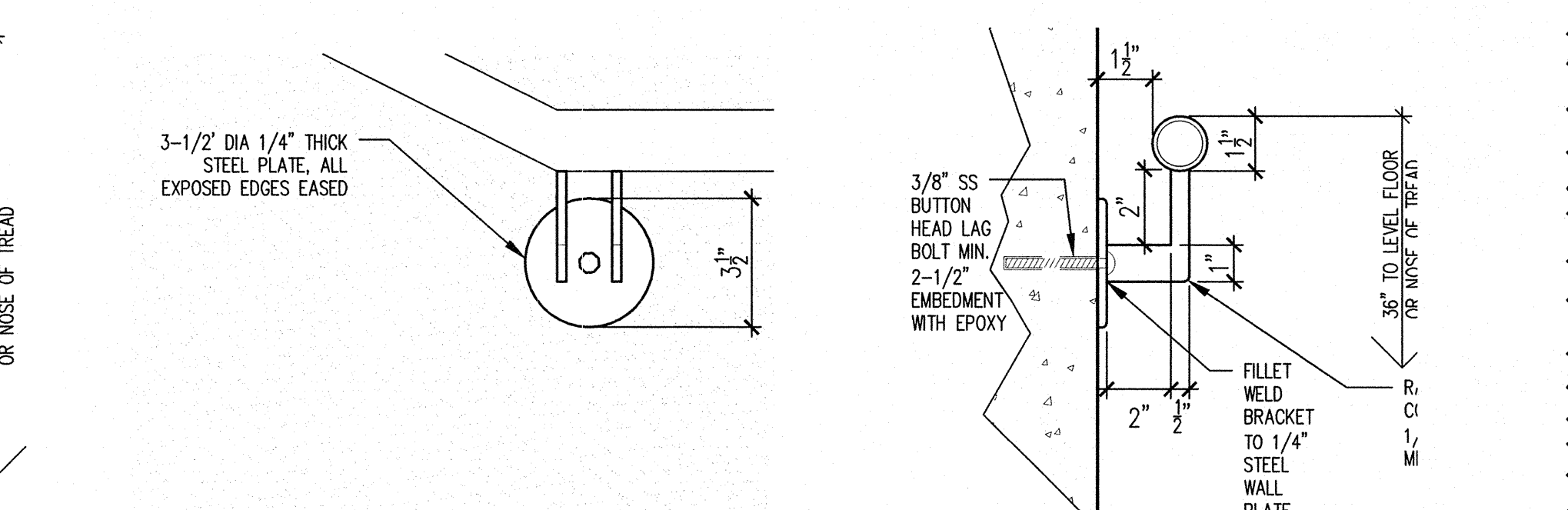
12 TYPICAL STAIR GUARD RAIL
1" = 1'-0"



1B LOWER MAIN STAIRCASE NEW PLAN
1/4" = 1'-0"



7 HAND RAIL DETAIL
1" = 1'-0"



8 HAND RAIL DETAIL
1" = 1'-0"

9 MAIN STAIRCASE DEMO PLAN
1/8" = 1'-0"

10 HAND RAIL WALL MOUNT DETAIL
3" = 1'-0"

11 HAND RAIL WALL MOUNT DETAIL
3" = 1'-0"

- KEYNOTES**
- REMOVE EXISTING GUARDRAIL & HANDRAILS. RETAIN ALL EXISTING FLOOR-MOUNTED POSTS U.O.N.
 - PROVIDE POWDER COATED STEEL GUARD RAIL PER DETAILS 2 & 3 THIS SHEET.
 - PROVIDE 1-1/2" DIA. POWDER COATED STEEL HAND RAIL @ 36" AFF. ON EXISTING POSTS
 - 1/4" STEEL HANDRAIL SUPPORT BRACKETS WELDED TO EACH FLOOR-MOUNTED POST.
 - REMOVE EXISTING POST. GRIND FLOOR FLUSH. REPAIR FLOORING TO MATCH ADJACENT EXISTING.
 - RETURN HANDRAIL TO GROUND
 - PROVIDE HAND RAIL EXTENSION 12" PAST FIRST RISER.
 - PROVIDE HANDRAIL EXTENSION 12" CONT. SLOPE + 12" LEVEL @ 36" AFF

- DEMO NOTES**
- DEMOLITION PLANS ONLY SHOW GENERAL DEMOLITION AND NOT ALL REQUIRED DEMOLITION.
 - CONTRACTOR TO INCLUDE IN BID ALL DEMOLITION REQUIRED TO ACCOMMODATE SCOPE OF WORK.
 - CONTRACTOR IS TO REPAIR ALL ADJACENT SURFACES WHEN EXISTING WORK IS REMOVED.

SUBMITTAL NOTES

SUBMIT DESIGN DRAWINGS, STRUCTURAL DRAWINGS AND CALCULATIONS STAMPED & SIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA TO THE RESIDENT ENGINEER FOR REVIEW & APPROVAL BEFORE COMMENCEMENT OF WORK ON THE HANDRAILS/GUARDRAIL SYSTEM FOR THE MAIN STAIRCASE.

PHASING

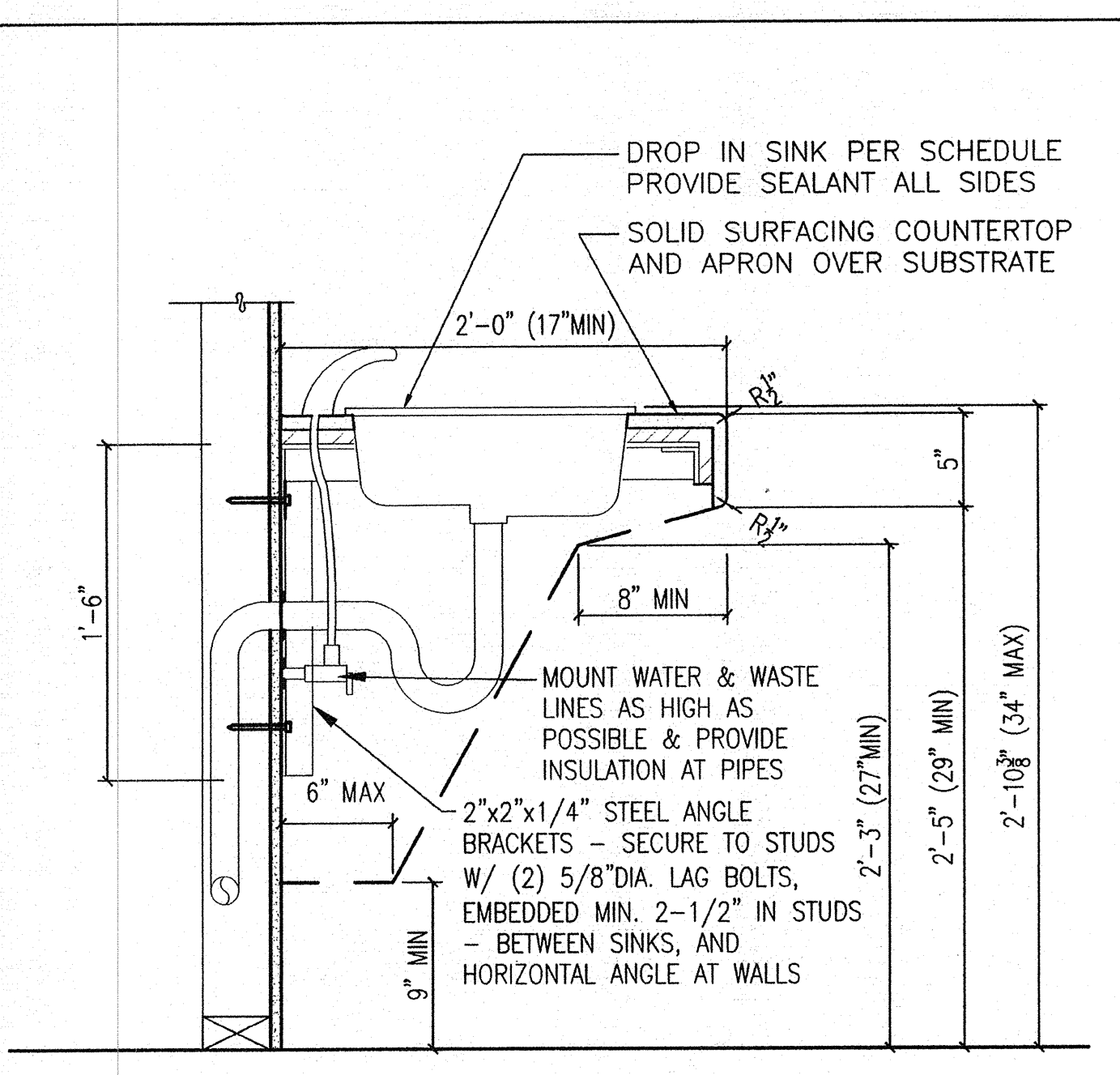
WORK ON THE MAIN STAIRCASE IS TO BE PHASED IN SUCH A MANNER AS TO PROVIDE CONTINUOUS PUBLIC ACCESS BETWEEN FLOORS DURING ALL OPERATING HOURS. PROVIDE A WORK PHASING PLAN TO BE REVIEWED AND APPROVED BY THE RESIDENT ENGINEER.

Platt/Whitelaw Architects, Inc.
 4034 30th Street, SAN DIEGO CA 92104
 (619) 546-4326 FAX (619) 546-4350
 PWA PROJECT #: 0409

BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA

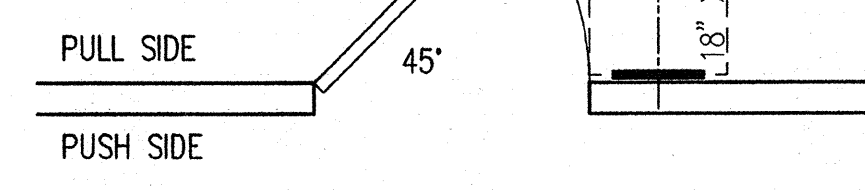
SHEET TITLE: MAIN STAIRCASE PLANS & ELEVATION		SHEET NUMBER: A-104	
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 6 OF 27 SHEETS		WBS B-13018	
FOR CITY ENGINEER: <i>[Signature]</i> 4/18/14		ALI DARVISHI SECTION HEAD	
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	SG/SR	[Signature]	2/7/14
ADDENDUM A	SG/SR	[Signature]	4/18/14
CONTRACTOR		DATE STARTED	
INSPECTOR		DATE COMPLETED	
ADDENDUM A: REDESIGN HANDRAILS TO RETAIN EXISTING FLOOR MOUNTED POSTS		37593-06-D	

BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA - ADDENDUM A



LAVATORY COUNTER DETAIL 9

PER ADA 2010 STANDARDS: SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MINIMUM X 18" MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN.



TACTILE SIGN MOUNTING LOCATION 3

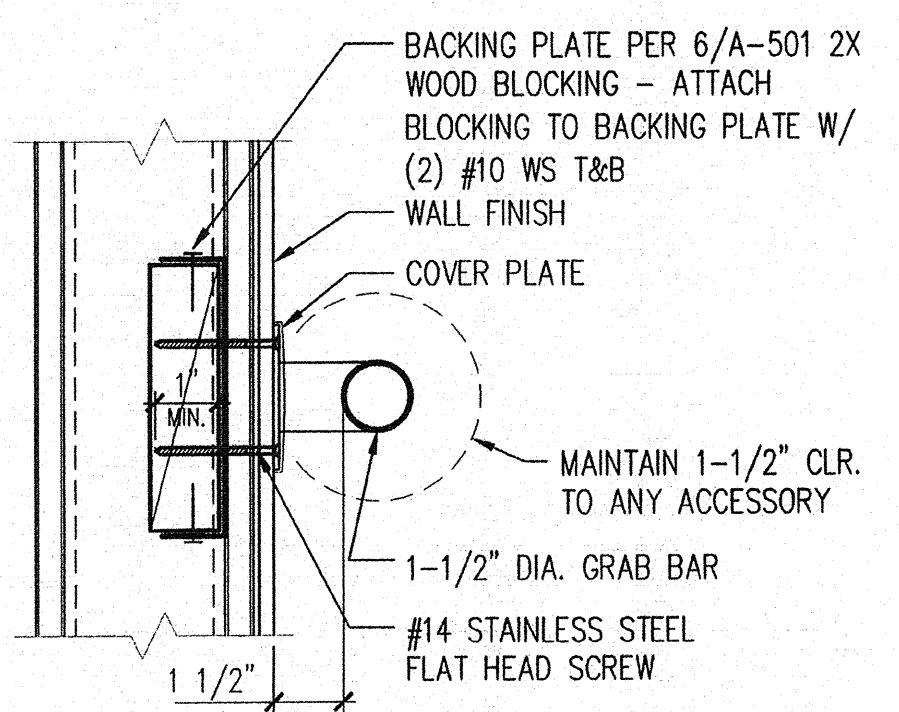
SIGNAGE	SIGN TEXT	SIGN LOC.	NOTES
J1	SAN DIEGO HISTORY CENTER ARCHIVES	LIBRARY	BLACK LETTERING ON WHITE BACKGROUND
J2	MUSEUM OF PHOTOGRAPHIC ARTS	@ LOBBY ENTRANCE	BLACK LETTERING ON WHITE BACKGROUND
J3	SAN DIEGO HISTORY CENTER	@ LOBBY ENTRANCE	BLACK LETTERING ON WHITE BACKGROUND

NOTE: VERIFY COLOR AND LOCATION OF SIGNS WITH RESIDENT ENGINEER IN THE FIELD PRIOR TO FABRICATION AND INSTALLATION.

SEE SIGN SCHEDULE FOR SPECIFIC TEXT

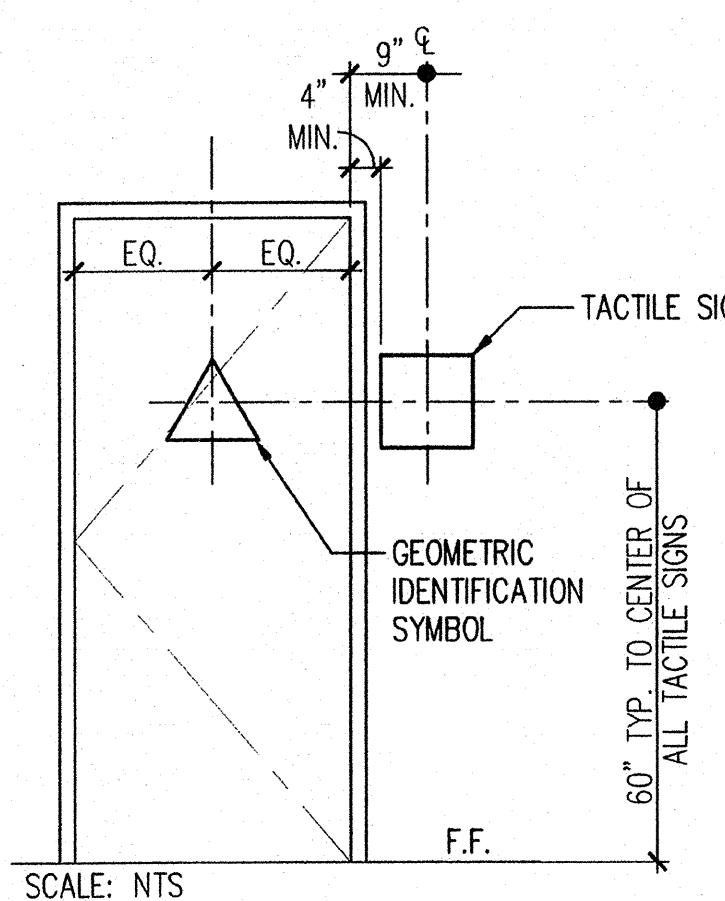
SIGNAGE SCHEDULE 2

SIGN TYPES 1



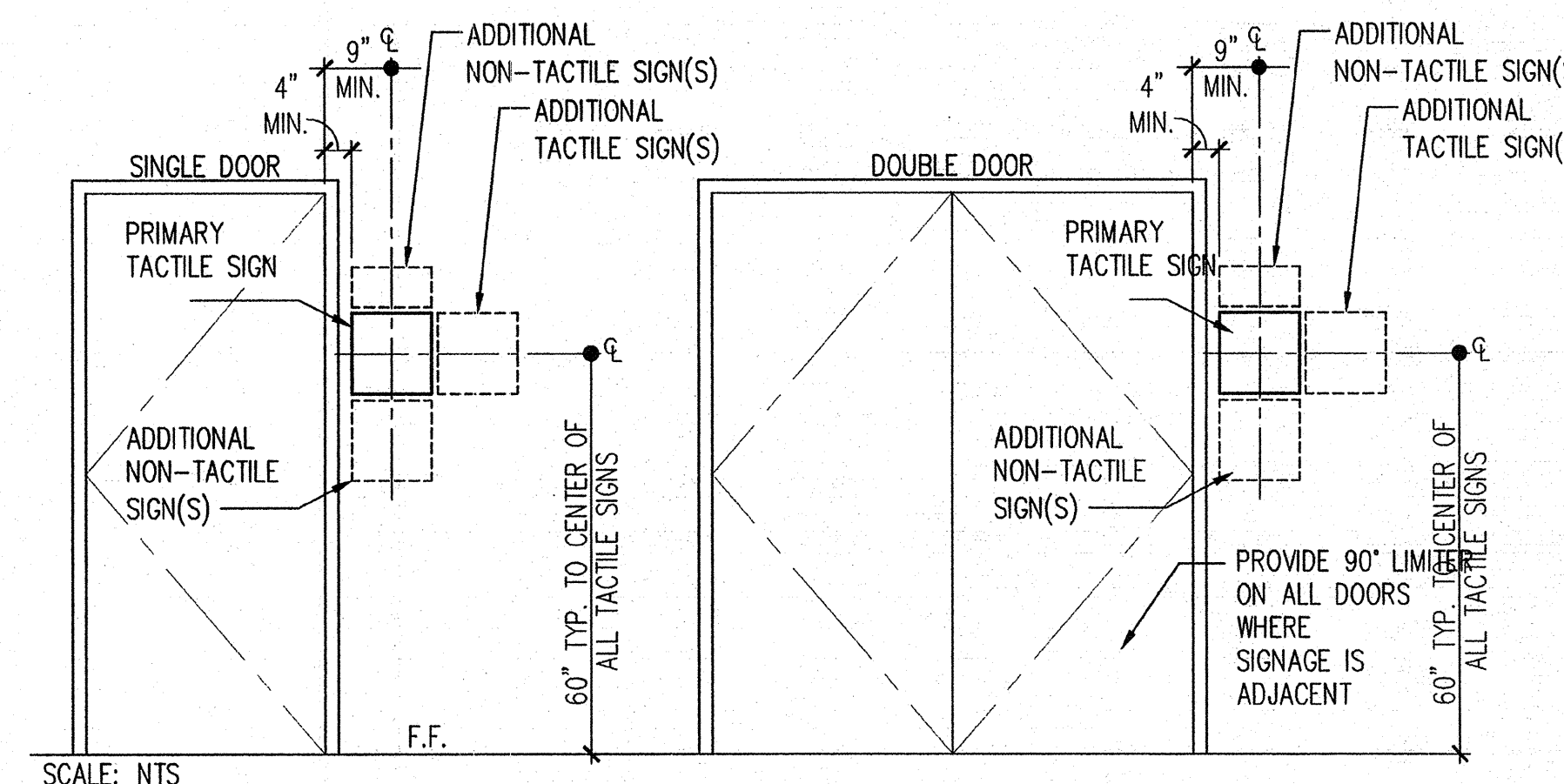
NOTES:
 1. GRAB BAR SHALL NOT ROTATE WITHIN ITS FITTINGS
 2. GRAB BAR ATTACHMENT SHALL BE CAPABLE OF WITHSTANDING A 250 LB. POINT LOAD

GRAB BAR INSTALLATION DETAIL 10



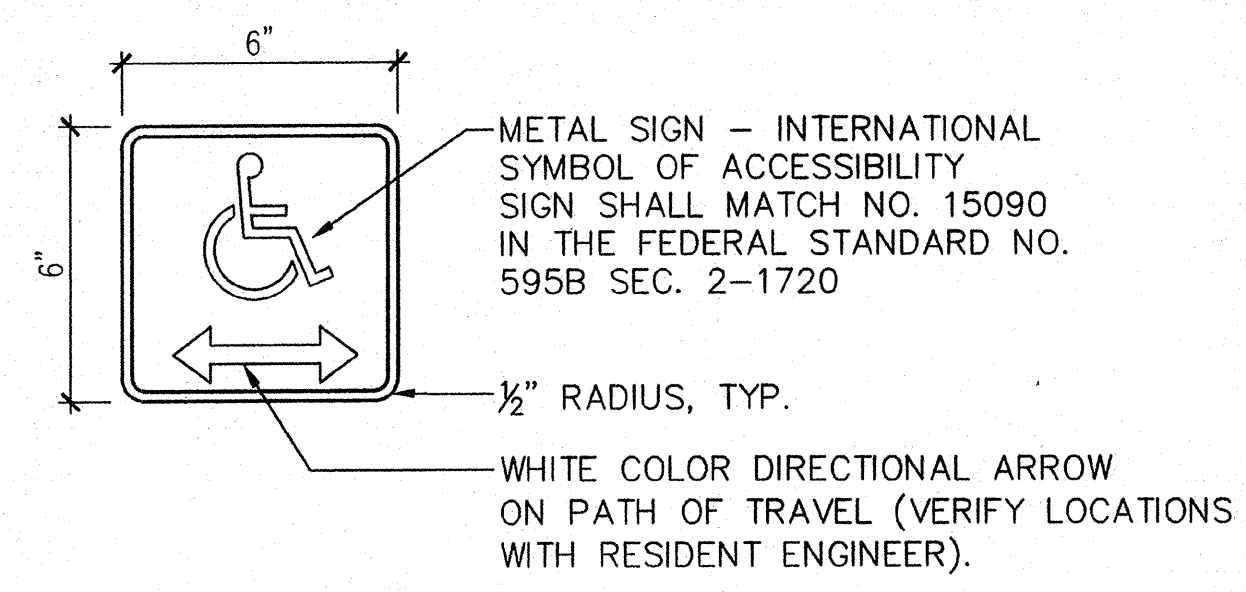
NOTES:
 1. ALL SIGN LOCATIONS AS PER PLAN & SIGNAGE SCHEDULE.
 2. LOCATE SIGN AT STRIKE SIDE OF ENTRY DOOR SO THAT PERSONS MAY APPROACH WITHOUT BEING HIT BY THE SWING OF ANOTHER DOOR. REFER TO FLOOR PLAN FOR LOCATION OF DOUBLE DOORS THAT SWING MORE THAN 90 DEGREES.
 3. SEE DETAIL X, THIS SHEET FOR GROUPING REQUIREMENTS.
 4. FOR ACTUAL DOOR TYPES SEE DOOR SCHEDULE.
 5. SEE DETAILS 3 & 6, THIS SHEET FOR MOUNTING DETAILS.

RESTROOM SIGN MOUNTING LOCATION 5



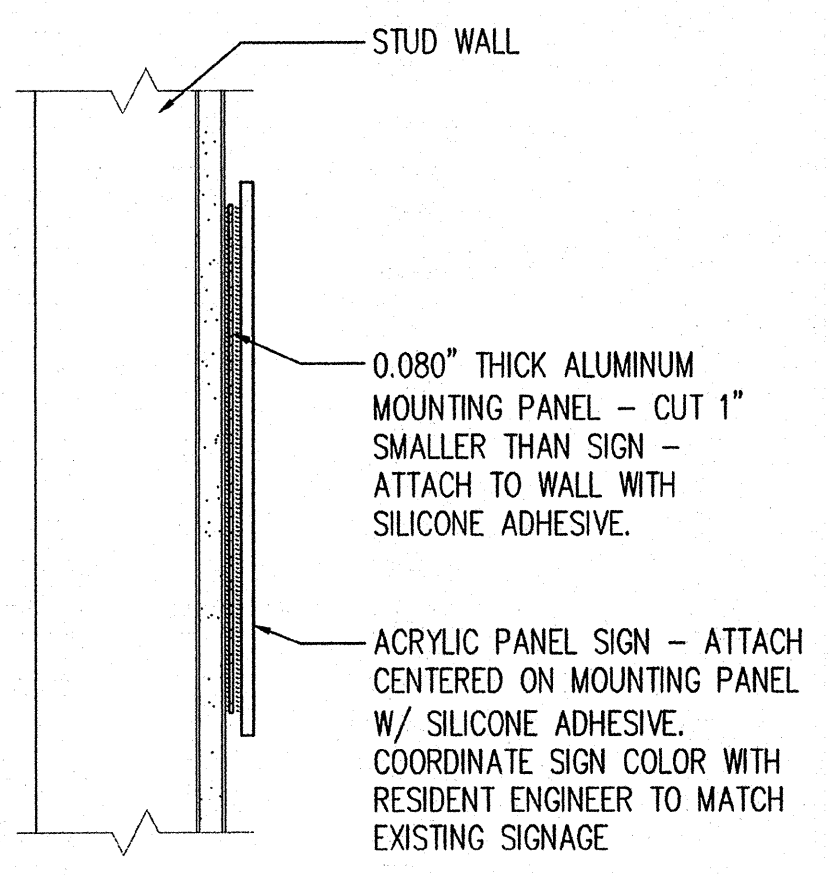
NOTES:
 1. ALL SIGN LOCATIONS AS PER PLAN & SIGNAGE SCHEDULE.
 2. LOCATE SIGN AT STRIKE SIDE OF ENTRY DOOR SO THAT PERSONS MAY APPROACH WITHOUT BEING HIT BY THE SWING OF ANOTHER DOOR. REFER TO FLOOR PLAN FOR LOCATION OF DOUBLE DOORS THAT SWING MORE THAN 90 DEGREES.
 3. WHEN GROUPING OCCURS:
 A. WHERE ONLY ONE TACTILE SIGN OCCURS: SIGNS ARE TO BE VERTICALLY ALIGNED WITH 1" MINIMUM GAP BETWEEN SIGNS AND CENTER OF TACTILE SIGN AT 60" A.F.F., U.O.N.
 B. WHERE TWO OR MORE TACTILE SIGN OCCURS: TACTILE SIGNS TO BE HORIZONTALLY ALIGNED WITH 1" MIN. GAB BETWEEN SIGNS, ALL CENTER OF TACTILE SIGNS AT 60" A.F.F., U.O.N.
 4. IF THE ACTIVE DOOR LEAF SWINGS OUT INTO THE CLEAR AREA REQUIRED IN FRONT OF THE SIGN, PROVIDE A 90" MAX. INHIBITOR TYPE CLOSER.
 5. FOR ACTUAL DOOR TYPES SEE DOOR SCHEDULE.
 6. SEE DETAILS 3 & 6, THIS SHEET FOR MOUNTING DETAILS.

GENERAL SIGN MOUNTING LOCATIONS 4

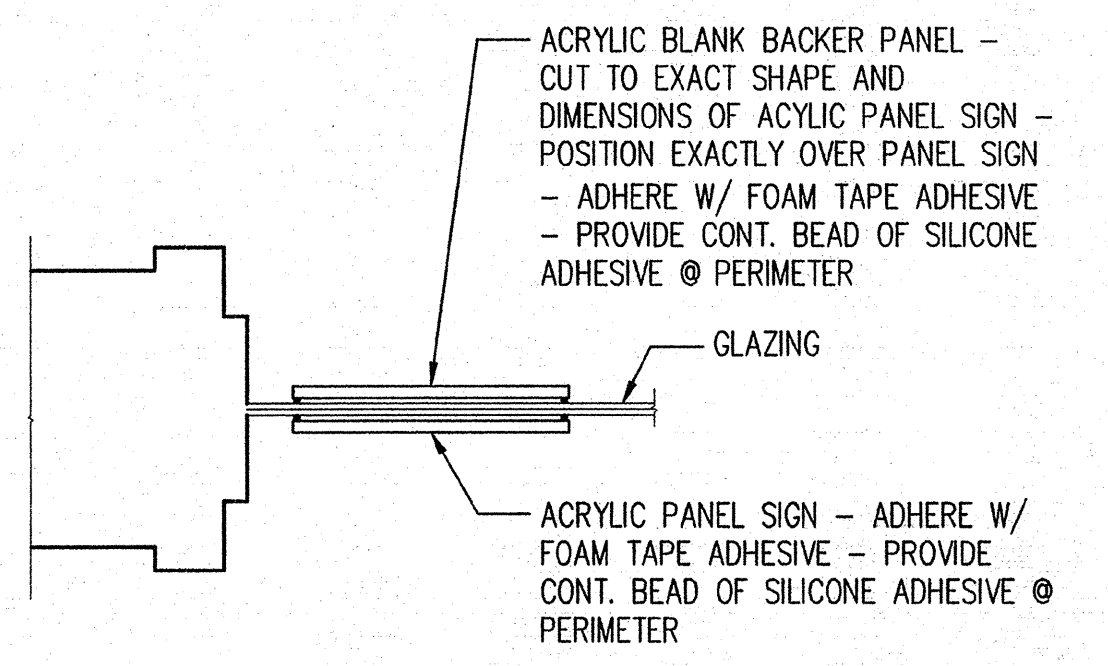


NOTE: MOUNTING SHALL BE ON A 2 1/2" SQ. GALV. STEEL TUBE WITH 80" TO BOTTOM OF SIGN WITH 1'-6" CONC. FTG. 15" DEEP OR WALL AT 60" CENTER TO GRADE PERMANENTLY ATTACHED TO STRUCTURE.
 PROVIDE COST ALLOWANCE FOR PROVISION OF FOUR (4) DIRECTIONAL SIGNS TO BE PLACED AT THE DIRECTION OF THE RESIDENT ENGINEER.

EXTERIOR DIRECTIONAL SIGNAGE 9



SIGNAGE ATTACHMENT ON WALL 8



SIGNAGE ATTACHMENT ON GLAZING 7

Platt/Whitelaw Architects, Inc.
 4034 30th Street, SAN DIEGO CA 92104
 (619) 546-4326 FAX (619) 546-4350
 PWA PROJECT #: 0409

BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA

SHEET TITLE: **SIGNAGE DETAILS** SHEET NUMBER: **A-503**

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
 SHEET 10 OF 27 SHEETS

FOR CITY ENGINEER: *[Signature]* 4/18/14
 DATE: 4/18/14

DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	SG/SR	<i>[Signature]</i>	4/18/14	

ALT DARVISHI
 SECTION HEAD

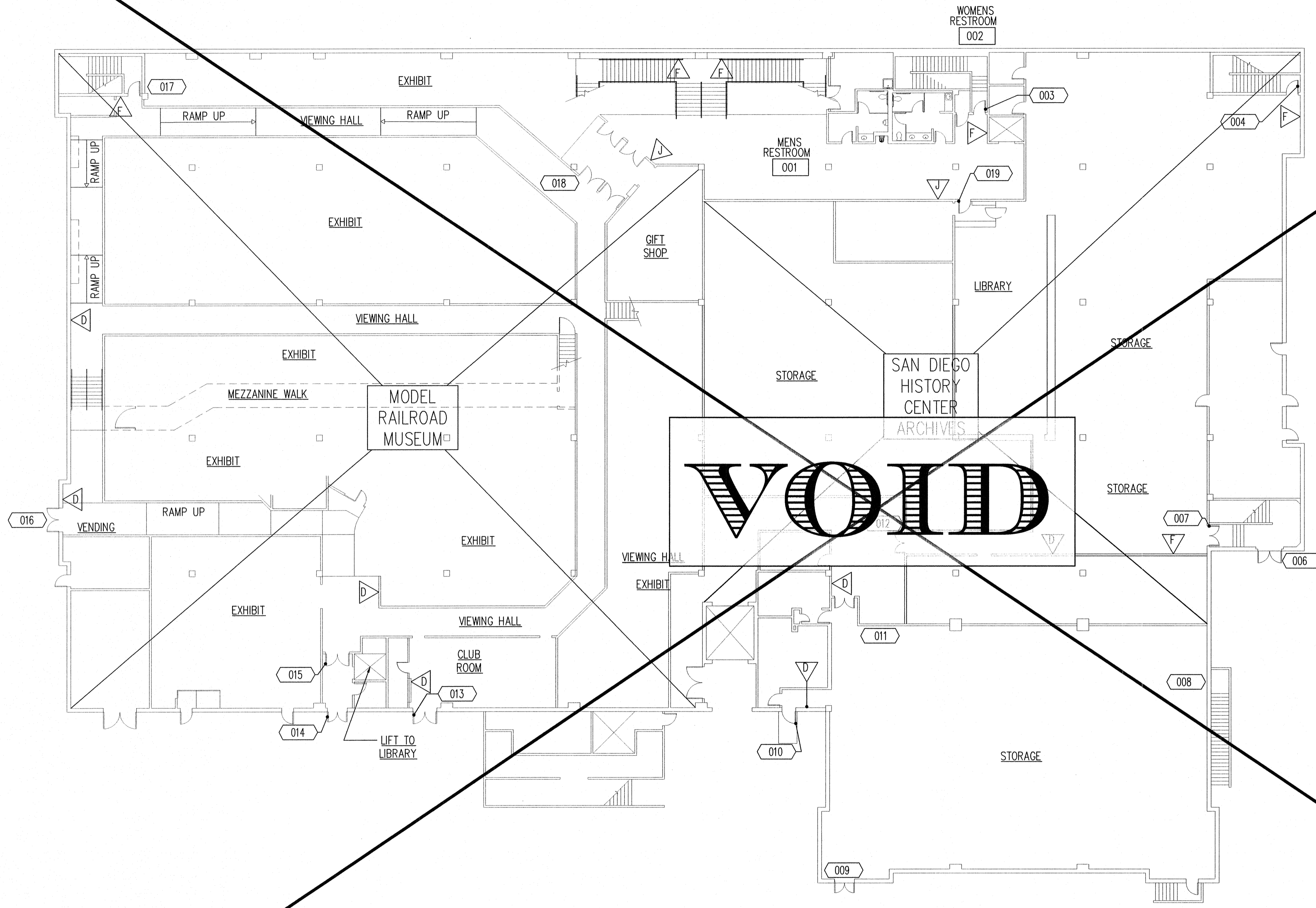
COSELYN GOODRICH
 PROJECT MANAGER

206-1719
 CCS27 COORDINATE
 6280407-1846444
 CCS83 COORDINATE

CONTRACTOR: _____ DATE STARTED: _____
 INSPECTOR: _____ DATE COMPLETED: _____

37593-10-D
 NEW SHEET

J:\0409 Casa de Balboa ADA\03-Drawing\Casa de Balboa ADA\Signage\SIGNAGE DETAILS.dwg 04/16/2014 14:58



VOID

LEGEND

▽ SIGNAGE SYMBOL SIGN. SEE A/A-503 FOR SIGN TYPE

Platt/Whitelaw Architects, Inc.
 4034 30th Street, SAN DIEGO CA 92104
 (619) 546-4326 FAX (619) 546-4350
 PWA PROJECT #: 0409



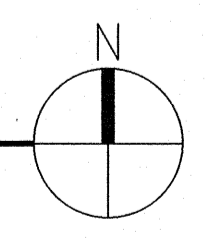
BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA

SHEET TITLE: **SIGNAGE PLAN - LOWER LEVEL** SHEET NUMBER: **A-505**

CITY OF SAN DIEGO, CALIFORNIA
 ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
 SHEET 12 OF 23 SHEETS WBS **B-13018**

FOR CITY ENGINEER		DATE		ALI DARVISHI SECTION HEAD	
DESCRIPTION	BY	APPROVED	DATE	FILMED	COSELYN GOODRICH PROJECT MANAGER 206-1719 CCS27 COORDINATE 6280407-1846444 CCS83 COORDINATE 37593-12-D
ORIGINAL	SG/SR		2/7/14		
ADDENDUM A	DF/KP		4/18/14		
CONTRACTOR	DATE STARTED	INSPECTOR	DATE COMPLETED		

1 LOWER LEVEL SIGNAGE PLAN
 1/16" = 1'-0"



J:\0409 Casa de Balboa ADA\03-Drawings\Casa de Balboa ADA\Sheet V-505 SIGNAGE PLAN - LOWER LEVEL.dwg 03/17/2014 17:46

LANDSCAPE & IRRIGATION NOTES

1. ALL DISTURBED AREAS SHALL MATCH APPEARANCE OF ADJACENT AREAS AT END OF WORK. TURF SHALL BE REPLACED WITH SOD AS APPROVED BY PARK & RECREATION DEPARTMENT. SEE GREENBOOK AND WHITEBOOK SECTION 308 - LANDSCAPE AND IRRIGATION INSTALLATION.
2. PROJECT FOREMAN TO INSPECT PROJECT SITE PRIOR TO BEGINNING WORK AND MEET WITH SITE PERSONNEL TO DETERMINE WHICH EXISTING IRRIGATION FACILITIES ARE AFFECTED BY DEMOLITION/CONSTRUCTION OF SITE IMPROVEMENTS.
3. IRRIGATION MAINLINE, WIRE, VALVES AND CONTROLLERS WHICH SERVE PORTIONS OF THE CONSTRUCTION AREA OUTSIDE OF THE PROJECT SITE SHALL REMAIN OPERATIONAL.
4. EXERCISE CARE WHEN TRENCHING AROUND EXISTING LANDSCAPE AND PROTECT EXISTING LANDSCAPE DURING ALL PHASES OF WORK WHEN ENCOUNTERED, HAND TRENCH AROUND EXISTING TREE ROOTS OVER 2" DIA.
5. IT MAY BE NECESSARY TO RELOCATE AND/OR RECONNECT EXISTING IRRIGATION FACILITIES IN ORDER TO HAVE A FUNCTIONING SYSTEM. TAKE APPROPRIATE ACTION PRIOR TO DEMOLITION TO ENSURE THAT EXISTING PRESSURIZED WATER LINES, LATERAL LINES, AND IRRIGATION CONTROL WIRES ARE PROPERLY DISCONNECTED, RELOCATED AND/OR CAPPED TO PREVENT WATER SPILLAGE OR POTENTIAL HAZARDS. VERIFY EXACT LOCATION OF FACILITIES WITHIN AND ADJACENT TO WORK AREAS.
6. HAVE A PROJECT FOREMAN ON SITE DURING DEMOLITION TO DISCONNECT AND CAP EXISTING IRRIGATION FACILITIES.
7. OBTAIN APPROVAL FROM RESIDENT ENGINEER FOR RELOCATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
8. VERIFY EXACT LOCATIONS AND STAKE ALL DISCONNECTED, CAPPED OR RELOCATED FACILITIES IN THE FIELD AFTER DEMOLITION HAS BEEN COMPLETED.
9. VERIFY LOCATIONS OF ALL PERTINENT SITE IMPROVEMENTS INSTALLED UNDER OTHER TRADES, INCLUDING PIPING AND WIRING. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT CITY RESIDENT ENGINEER FOR INSTRUCTIONS PRIOR TO COMMENCING WORK. CONTRACTOR SHALL COORDINATE WITH THE CITY RESIDENT ENGINEER TO PRESERVE AND PROTECT EXISTING LANDSCAPE AND IRRIGATION SYSTEMS ADJACENT TO PROJECT SITE, AND EXISTING IRRIGATION FACILITIES WITHIN PROJECT AREA AFFECTED BY THIS WORK. ALL TREES ADJACENT TO A CONSTRUCTION AREA SHALL BE PROTECTED BY PLACING ORANGE CAUTION FENCING AROUND THE TREE AT THE TREE'S DRIPLINE. ALL WORK, EQUIPMENT AND MATERIAL TO STAY CLEAR OF THESE AREAS.
10. ANY IRRIGATION SYSTEM COMPONENTS THAT NEED TO BE REROUTED OR RELOCATED, OR ARE DAMAGED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED. ALL IRRIGATION WORK SHALL CONFORM TO THE CITY OF SAN DIEGO'S JAN. 2011 ISSUE OF THE CONSULTANT'S GUIDE TO PARK DESIGN AND DEVELOPMENT AND ALL OTHER LANDSCAPE-RELATED CITY AND REGIONAL STANDARDS.
11. ALL IRRIGATION SYSTEM ADJUSTMENTS ARE TO BE INSPECTED BY THE PARK AND RECREATION DEPARTMENT AND SHALL BE SHOWN TO OPERATE SATISFACTORILY.

LEGEND

ITEM	SYMBOL
APPROX. LIMIT OF WORK	-----
PROPOSED CONTOUR	-----460-----
PROPOSED PCC PAVEMENT	-----4-----
PROPOSED CURB	-----
PROPOSED TOP OF CURB ELEV.	77.00 TC
PROPOSED FINISHED SURFACE/ FLOW LINE	76.50 FS/FL
	77.00 RIM
	69.00 IE
PROPOSED INVERT ELEV.	-----g-----
PROPOSED RIM ELEV.	-----9.25-----
EXISTING CONTOUR	-----
EXISTING CURB	-----
EXISTING PCC PAVEMENT	-----4-----
EXISTING BUILDING	-----

DEMOLITION NOTES

1. DEMOLISH AND REMOVE ALL EXISTING IMPROVEMENTS WITHIN LIMITS OF WORK UNLESS INDICATED OTHERWISE. KEYNOTES REFER TO TYPICAL ITEMS OF DEMOLITION AND ARE NOT ALL-INCLUSIVE.
2. THE CONTRACTOR SHALL NOTIFY DIGALERT (1-800-227-2600) AT LEAST TWO DAYS PRIOR TO STARTING WORK AND SHALL ARRANGE FOR AND COORDINATE SHUT DOWN, DISCONNECTION AND CAPPING OF EXISTING UTILITIES WITH THE APPROPRIATE UTILITY OWNERS PRIOR TO COMMENCING THE WORK.
3. PROTECT IN PLACE ALL EXISTING IMPROVEMENTS, STRUCTURES AND UNDERGROUND UTILITIES TO REMAIN.
4. THE LOCATION AND EXISTENCE OF EXISTING UNDERGROUND FACILITIES SHOWN ON THE DRAWINGS WERE OBTAINED FROM A SEARCH OF AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL POTHOLE EXISTING UTILITIES AT POINTS OF CONNECTIONS AND ALL UTILITY CROSSINGS TO DETERMINE EXACT LOCATION PRIOR TO STARTING ANY WORK.
5. COORDINATE LOCATION OF ALL UNDERGROUND UTILITIES AND STORM DRAINS WITH NEW TREE LOCATIONS, MECHANICAL/ELECTRICAL FACILITIES, AND OTHER INSTALLATIONS. REFER TO LANDSCAPE, PLUMBING, ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
6. ALL EXISTING "DRY" UTILITIES SHOWN HEREON ARE FOR INFORMATION PURPOSES ONLY. REFER TO ELECTRICAL PLANS AND APPROPRIATE UTILITY COMPANY PLANS FOR ANY WORK ON OR WITH THESE UTILITIES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. WORK MAY OCCUR BEYOND THE LIMIT OF WORK LINE INDICATED ON THESE DRAWINGS. THIS ADDITIONAL WORK MAY INCLUDE, BUT IS NOT LIMITED TO, UTILITY INSTALLATION; FOOTING AND FOUNDATION CONSTRUCTION; TRENCH REPAIR; TRENCHING AND TRENCH RESURFACING; PCC/AC REPAIR; HARDSCAPE; LANDSCAPING AND/OR SHORING. IN ADDITION, REFER TO THE ARCHITECTURAL, STRUCTURAL, LANDSCAPING, MECHANICAL, PLUMBING AND ELECTRICAL SHEETS FOR ITEMS THAT MAY NOT BE SHOWN ON THIS SHEET.

ACCESSIBILITY NOTES

1. COMPLY WITH THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE (2013 CBC) FOR ALL SITE IMPROVEMENTS.
2. MAXIMUM CROSS SLOPE ON WALKWAYS SHALL BE 1.5%.
3. NO CHANGES IN LEVEL GREATER THAN 1/2" SHALL BE ALLOWED WITHOUT A CURB RAMP. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED. CHANGES IN LEVEL NO GREATER THAN 1:2.
4. CATCH BASIN AND DRAIN INLET GRATES SHALL HAVE SPACES NO GREATER THAN 1/2" WIDE IN ONE DIRECTION. IF GRATINGS HAVE ELONGATED OPENINGS, THEY SHALL BE PLACED SO THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.
5. CURB RAMPS SHALL BE REQUIRED WHEREVER ACCESSIBLE ACCESS ROUTES CROSS A CURB.
6. ACCESSIBLE RAMPS AND HANDRAILS SHALL BE REQUIRED WHEREVER SLOPE EXCEEDS 5%. MAXIMUM SLOPE SHALL BE 8.33% LEVEL LANDINGS SHALL BE INSTALLED AT TOP AND BOTTOM OF EACH RUN EQUAL TO THE WIDTH OF THE RAMP, 60" X 60" MINIMUM, AND INTERMEDIATE LANDINGS AT INTERVALS NOT EXCEEDING 30' OF VERTICAL RISE. BOTTOM LANDINGS AND INTERMEDIATE LANDINGS WITH DIRECTION CHANGES IN EXCESS OF 30 DEGREES SHALL BE MINIMUM 72" IN THE DIRECTION OF TRAVEL. RAMPS AND LANDINGS WITH VERTICAL SIDE DROP-OFFS SHALL HAVE WALLS, RAILINGS, PROTECTIVE SURFACES OR MINIMUM 6" HIGH CURBS.
7. ALL PAVEMENT CROSS SLOPES (SLOPES PERPENDICULAR TO THE DIRECTION OF TRAVEL) SHALL BE A MAXIMUM OF 1.5%. ALL RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1 IN 12. ALL LANDINGS AT STAIRS AND RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1.5% (BOTH DIRECTIONS). ALL WALKWAYS SHALL HAVE A MAXIMUM SLOPE LESS THAN 4.5% IN THE DIRECTION OF TRAVEL. ALL MAXIMUM SLOPES ARE ABSOLUTE AND SUPERSEDE CONSTRUCTION TOLERANCES STATED IN THE PROJECT SPECIFICATION OR ELSEWHERE. THE CONTRACTOR HAS THE OPTION OF ADJUSTING GRADES TO ALLOW FOR CONSTRUCTION TOLERANCE BUT SHALL NOT ADJUST GRADES TO LESS THAN 1% SLOPE OR GREATER THAN 1.5%. THE CONTRACTOR SHALL CONTACT THE RESIDENT ENGINEER REGARDING ANY GRADE REVISIONS PRIOR TO CONSTRUCTION OF PAVEMENT AREAS. THE PAVEMENT SLOPES WILL BE REVIEWED AFTER CONSTRUCTION AND PAVEMENT OVER THE MAXIMUM SLOPES SPECIFIED ABOVE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

DETECTABLE WARNING NOTES:

ACCESS TILE TRUNCATED DOME, DETECTABLE WARNING TACTILE SURFACE 2'X3' REPLACEABLE CAST IN PLACE INLINE DOME TILE. COLOR: GRAY

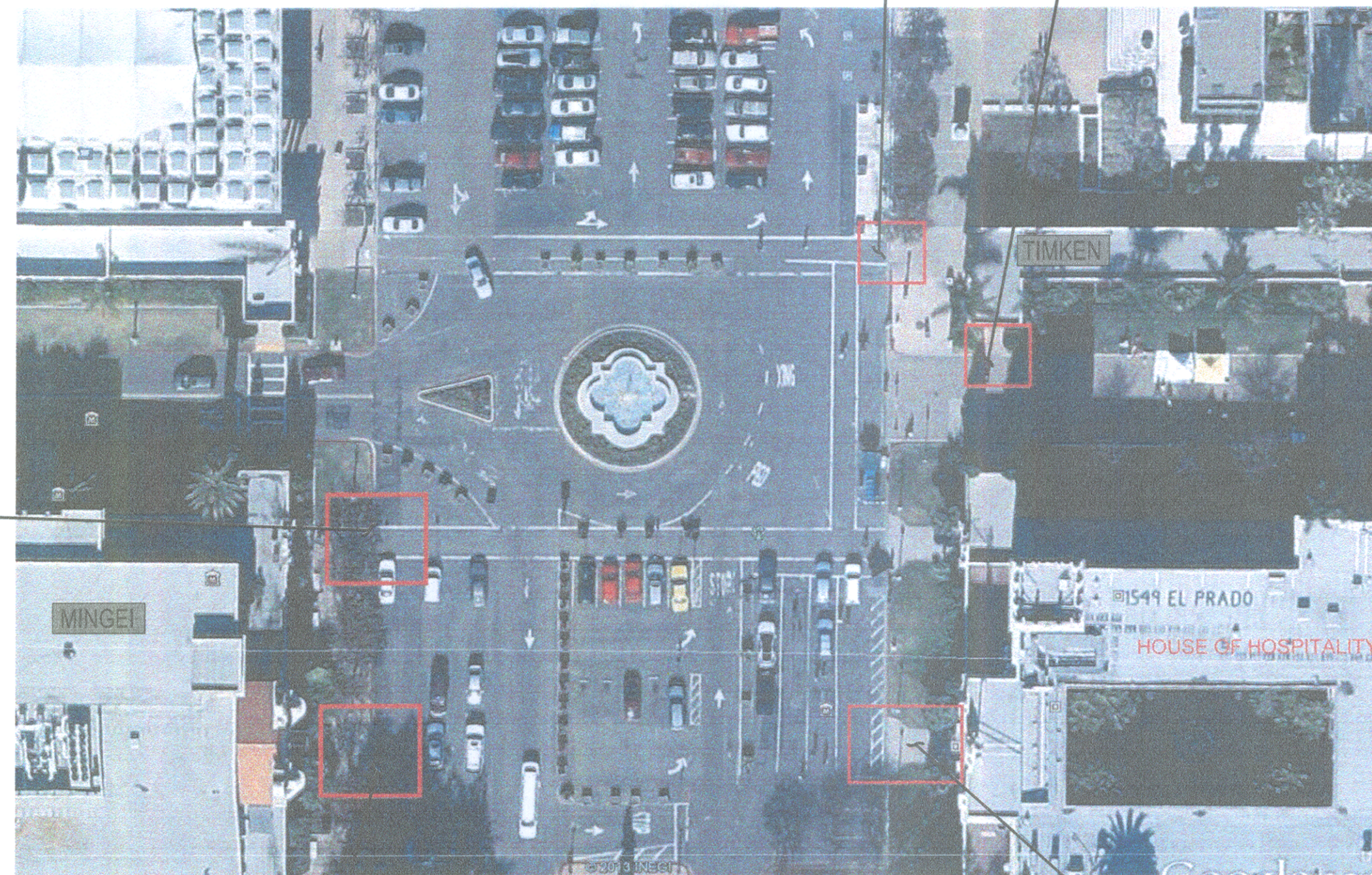
RAMP #8



**RAMPS # 8, 9
KEYMAP**
SCALE: 1" = 40'

RAMP #9

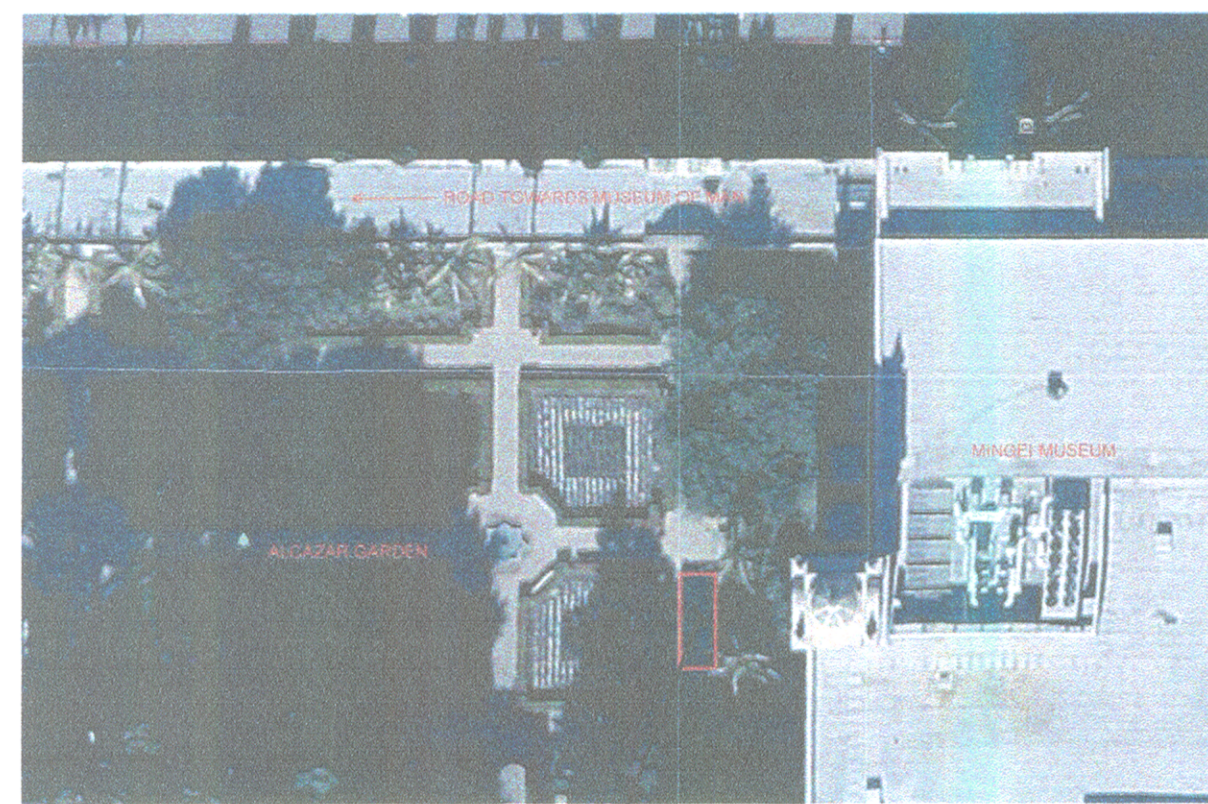
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**RAMPS # 1, 2, 3, 4, 5
KEYMAP**
SCALE: 1" = 40'

RAMP #1

RAMP #3



SIDEWALK #13

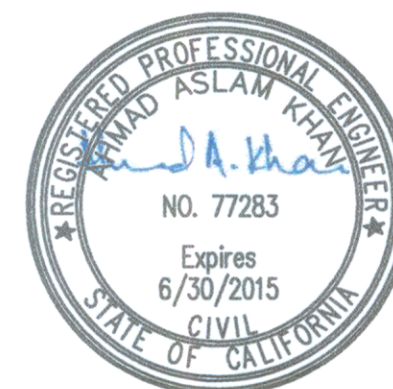
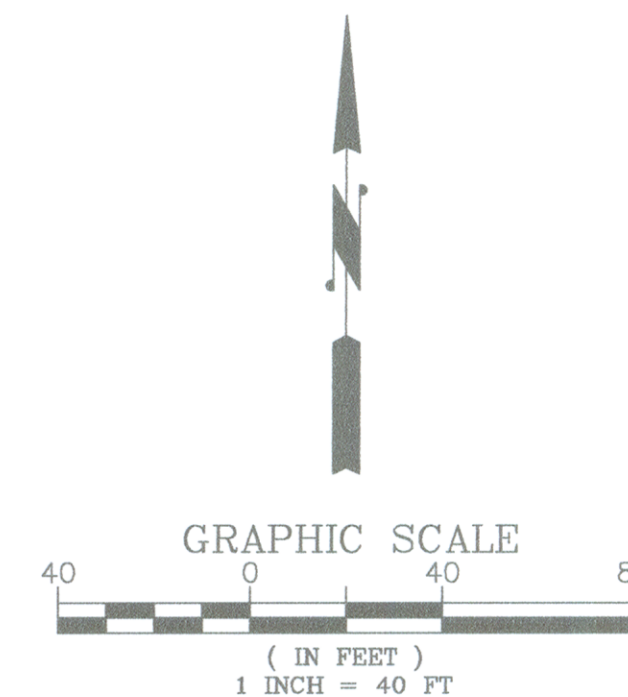
**SIDEWALK # 13
KEYMAP**
SCALE: 1" = 40'

RAMP #7



**RAMP # 6, 7
KEYMAP**
SCALE: 1" = 40'

RAMP #6



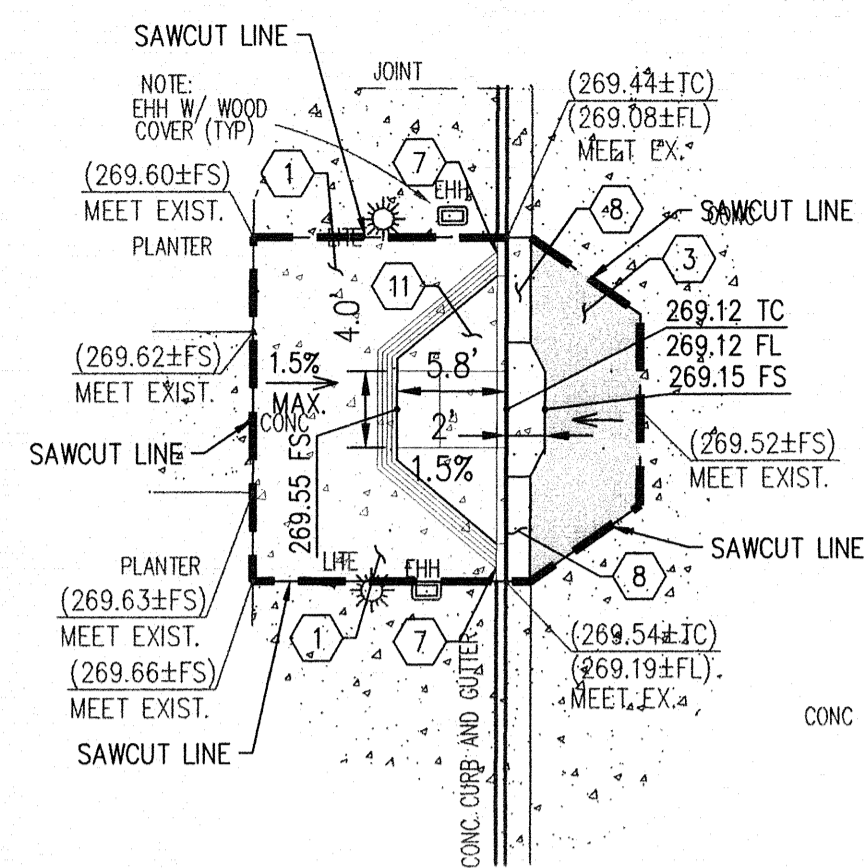
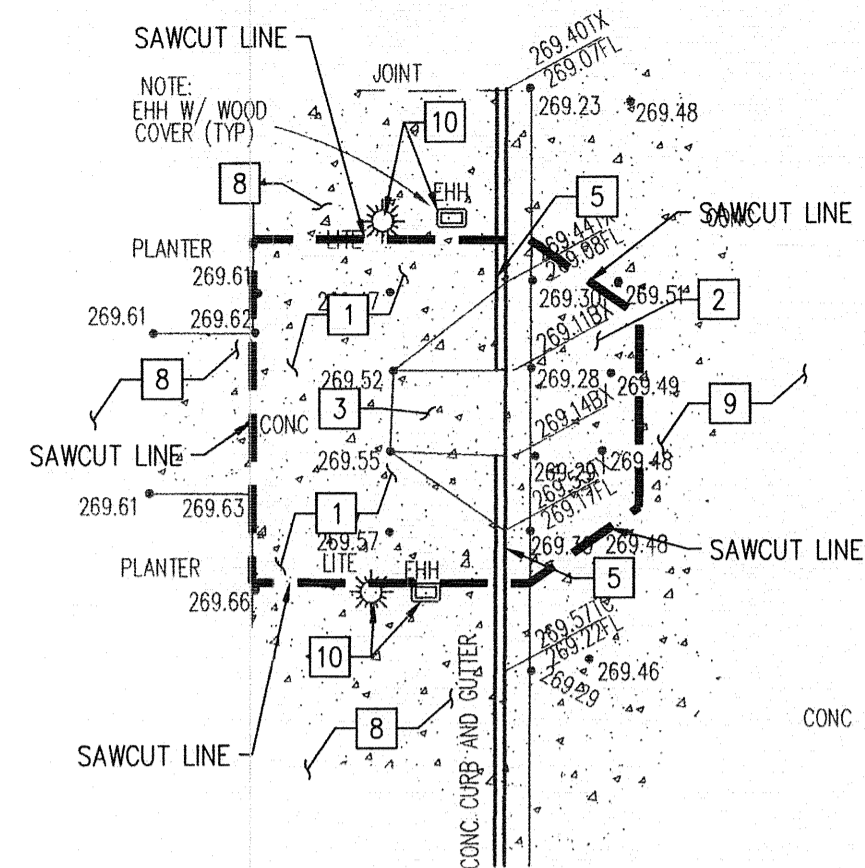
BergerABAM
10525 Vista Serrento Parkway, Suite 350, San Diego, CA 92121
506 West Graham Avenue, Suite 104, Lake Elsinore, CA 92530
(858) 500-4500 Fax: (858) 500-4501

DATE:	04/18/14
PLOTTED:	9:33 A
FLC PROJECT NO.	A14.0244
DESIGN BY:	SLL/AAK
DRAWN BY:	SLL
REVIEWED BY:	AAK

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350
PWA PROJECT #: 0409

**BALBOA PARK ADA BARRIER
REMOVAL - CASA DE BALBOA**

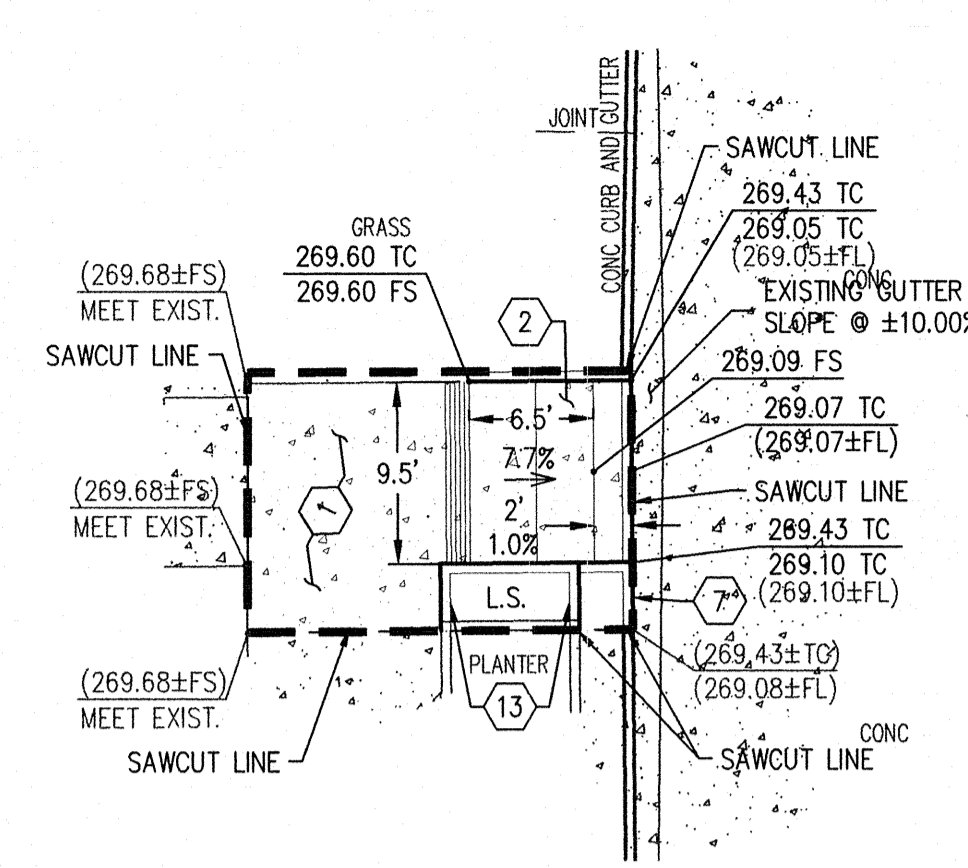
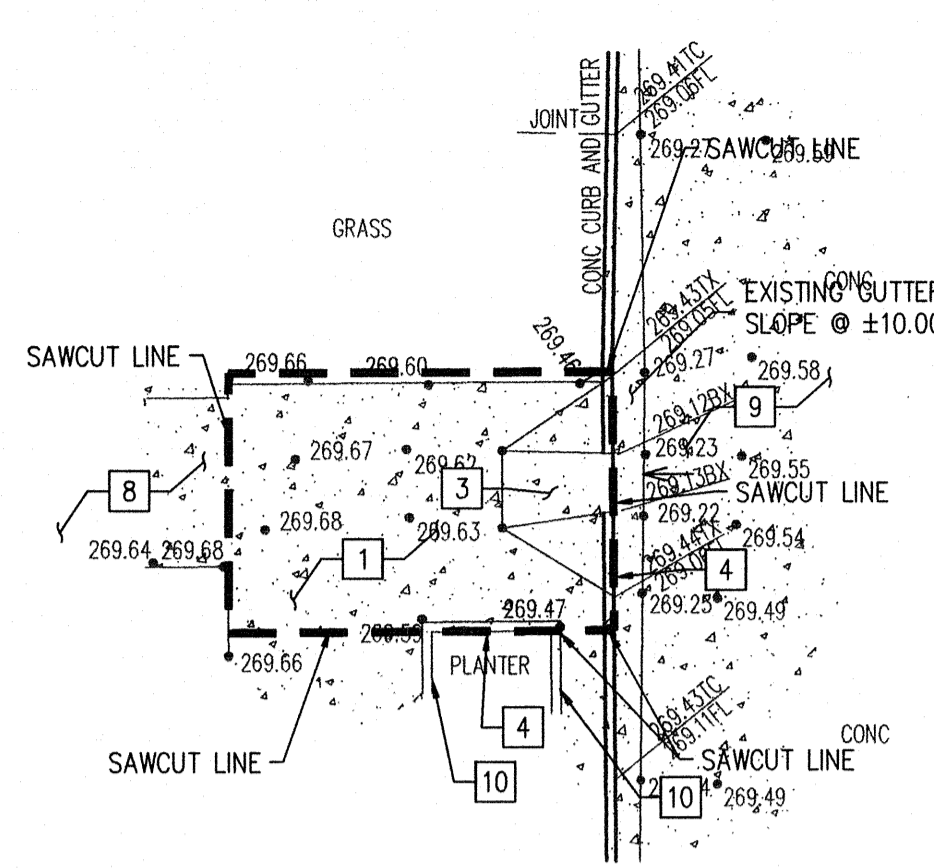
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CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 24 OF 27 SHEETS		WBS B-13018
FOR CITY ENGINEER		ALI DARVISHI SECTION HEAD
DESCRIPTION	BY	DATE
ORIGINAL	ABAM	2/7/2014
PROJECT MANAGER		COSELYN GOODRICH
		206-1719
		CCS27 COORDINATE
		6280407-1846444
		CCS83 COORDINATE
		37593-24-D
CONTRACTOR	DATE STARTED	
INSPECTOR	DATE COMPLETED	



EXISTING CONDITION AND DEMOLITION PLAN

PROPOSED IMPROVEMENTS

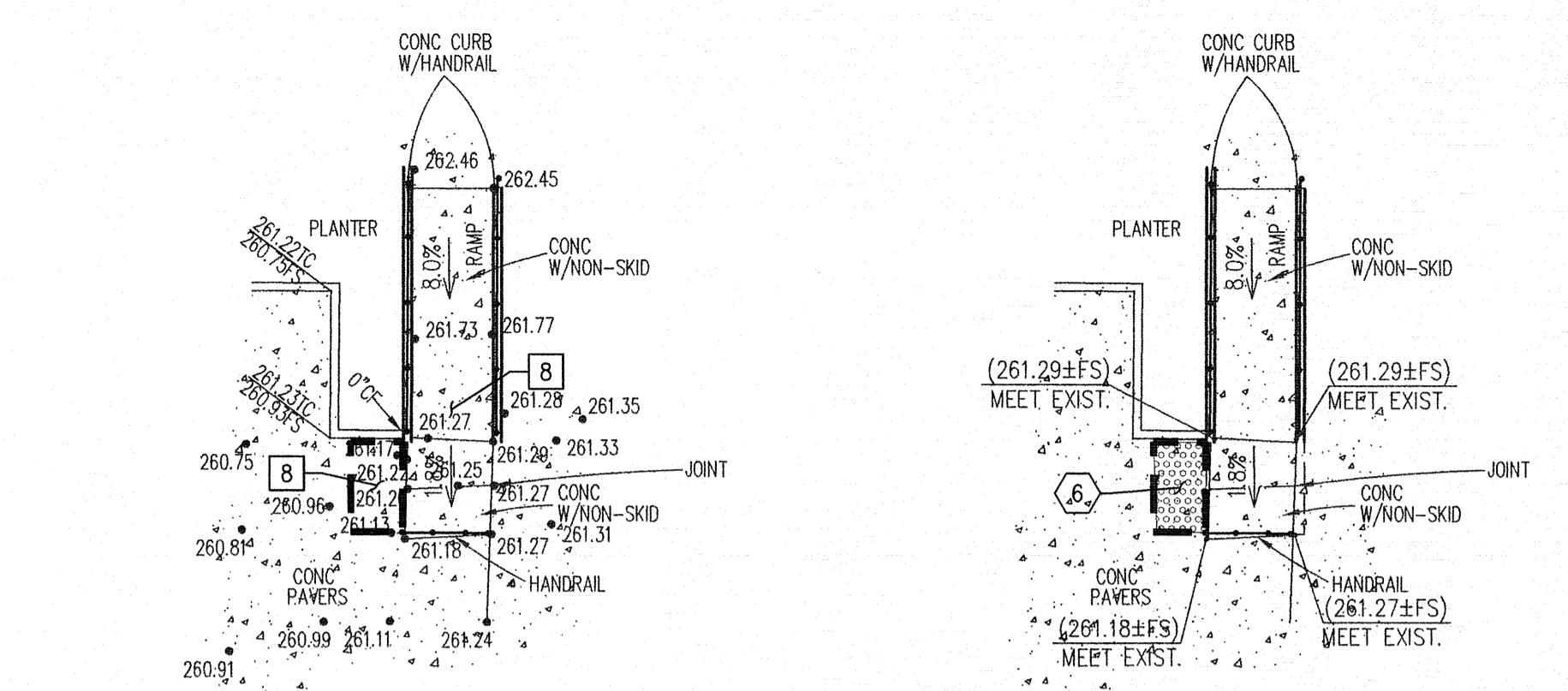
CURB RAMP #1



EXISTING CONDITION AND DEMOLITION PLAN

PROPOSED IMPROVEMENTS

CURB RAMP #2



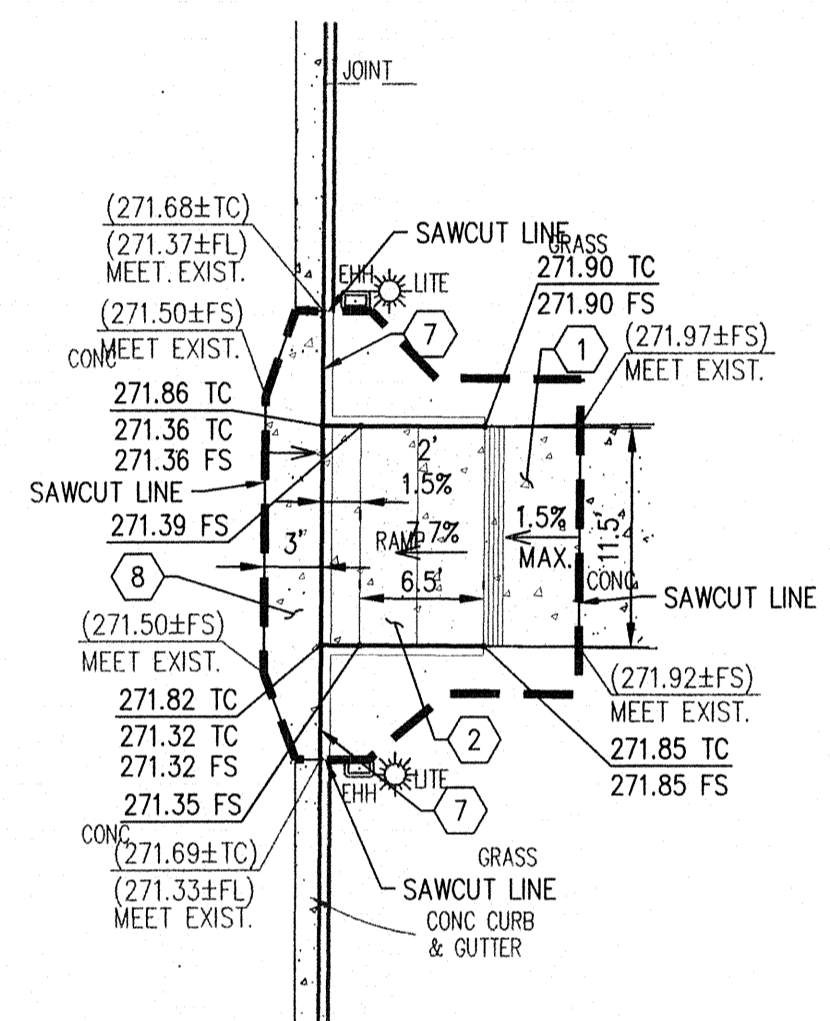
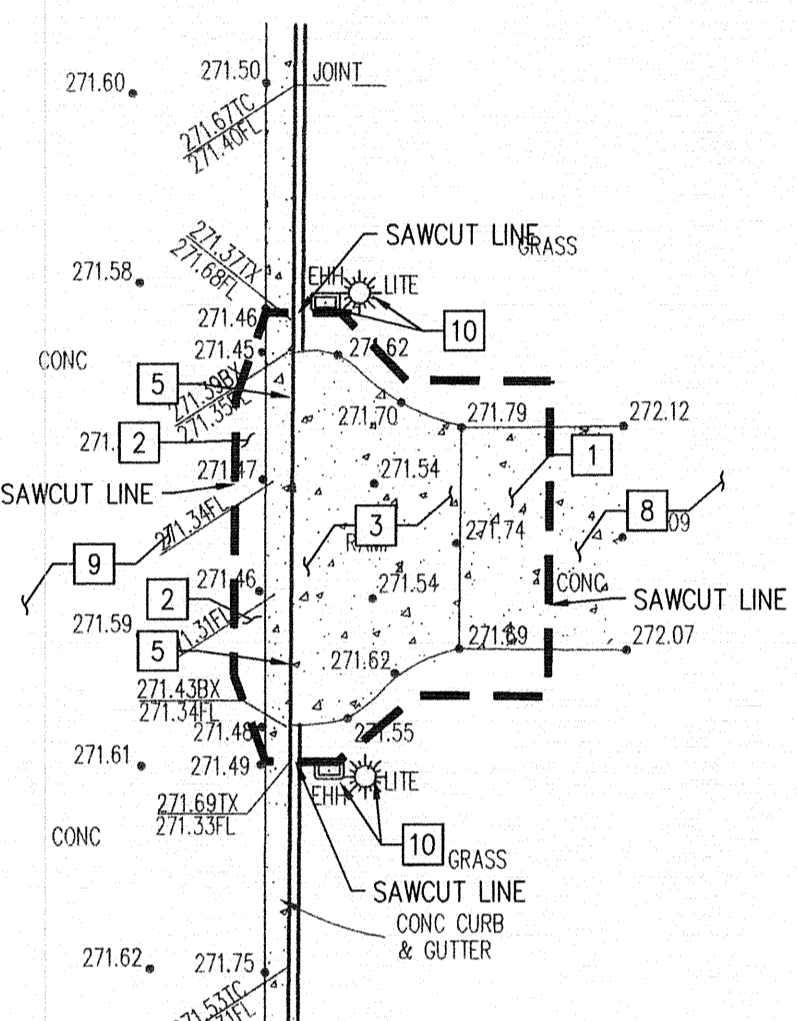
EXISTING CONDITION AND DEMOLITION PLAN

PROPOSED IMPROVEMENTS

CURB RAMP #8

KEY NOTES	
1	FURNISH AND INSTALL 5" PCC HARDSCAPE OVER 2" SAND AT 95% CONTRACTOR TO MATCH EXISTING PAVEMENT MATERIAL COLOR AND TEXTURE.
2	FURNISH AND INSTALL CONCRETE ADA COMPLIANT RAMP, SDG-130 CASE "A", SEE DETAIL "A", SHEET C2.1.
3	FURNISH AND INSTALL FULL DEPTH 10" THICK PAVEMENT SECTION. CONTRACTOR TO MATCH EXISTING PAVEMENT MATERIAL COLOR AND TEXTURE.
6	FURNISH AND INSTALL DETECTABLE TACTILE WARNING TILES, GRAY IN COLOR, PER ACCESS PRODUCTS INC. 2X3 REPLACEABLE CAST IN PLACE INLINE DOME TILE, ACC-R-2X3, OR APPROVED EQUAL.
7	FURNISH AND INSTALL P.C.C. CURB, PER SDG-150. MATCH EXISTING CURB HEIGHT, STYLE, COLOR AND TEXTURE.
8	FURNISH AND INSTALL P.C.C. CURB AND GUTTER, PER SDG-151. (MODIFIED: GUTTER WIDTH VARIES FROM 4.0' - 1.5'). MATCH EXISTING CURB HEIGHT, STYLE, COLOR AND TEXTURE. GUTTER TO MATCH EXISTING ADJACENT PAVEMENT, STYLE, COLOR AND TEXTURE.
9	HANDRAILS PER DETAIL D-1, D-2, D-3, D-4, SHEET C2.1
10	FURNISH AND INSTALL 18" WIDE P.C.C. GUTTER, PER SDG-150. MATCH EXISTING STYLE, COLOR AND TEXTURE.
11	FURNISH AND INSTALL CONCRETE ADA COMPLIANT RAMP, SDG-132 TYPE "B". SEE DETAIL "B", SHEET C2.1.
12	FURNISH AND INSTALL CONCRETE ADA COMPLIANT RAMP, SDG-130 CASE "E". SEE DETAIL "A", SHEET C2.1.
13	FURNISH AND INSTALL 6" WIDE AND HEIGHT PLANTER CURB. MATCH EXISTING PLANTER CURB HEIGHT, STYLE, COLOR AND TEXTURE.

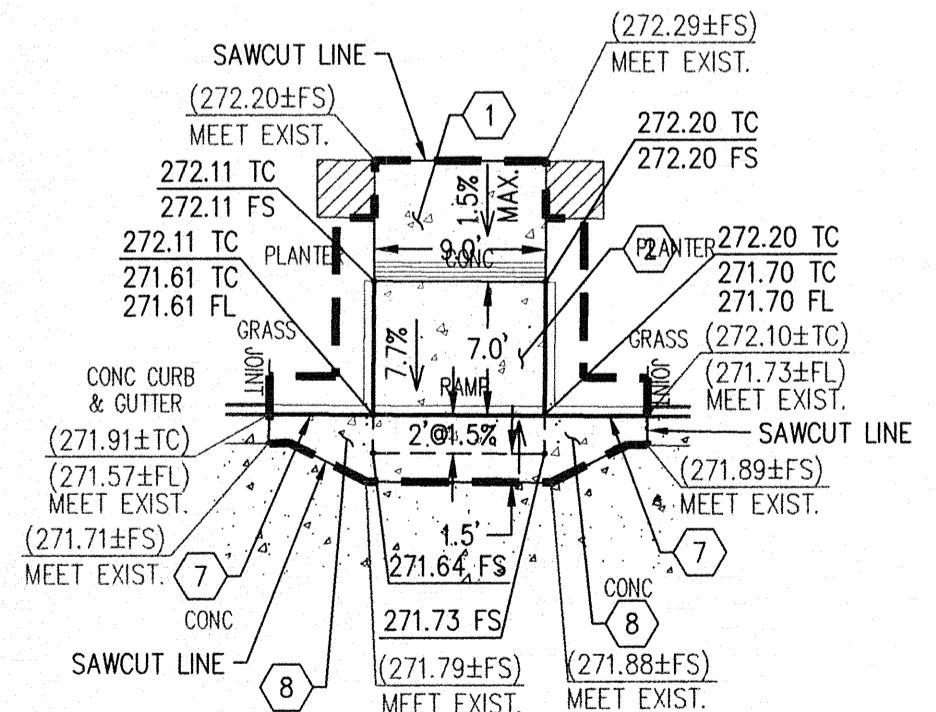
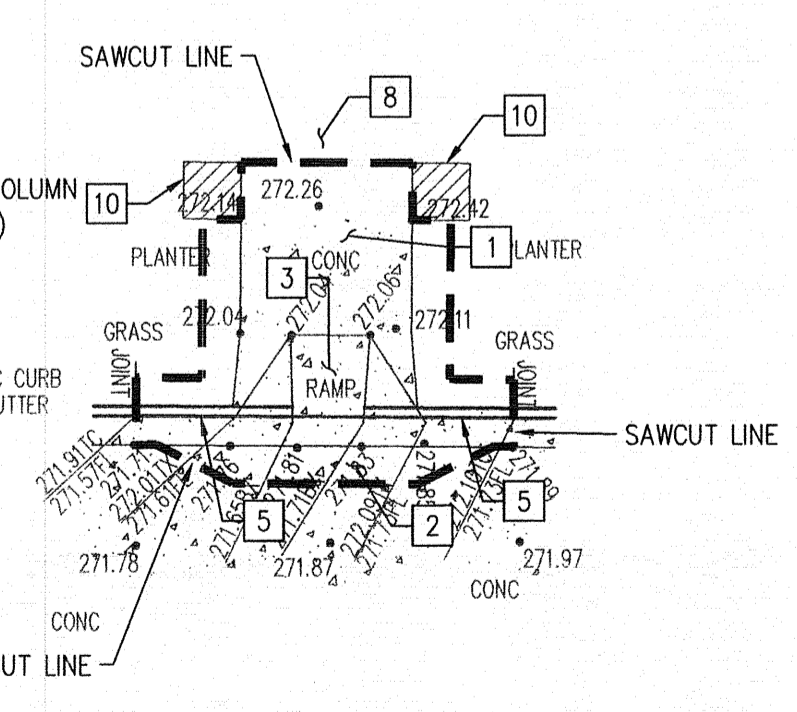
DEMOLITION KEY NOTES	
1	SAWCUT, DEMOLISH AND REMOVE EXISTING 6"± P.C.C. HARDSCAPE.
2	SAWCUT, DEMOLISH AND REMOVE EXISTING AC PAVEMENT AND BASE, 10"±.
3	SAWCUT, DEMOLISH AND REMOVE EXISTING CURB RAMP.
4	SAWCUT, DEMOLISH AND REMOVE PORTION OF EXISTING CURB.
5	SAWCUT, DEMOLISH AND REMOVE EXISTING PCC CURB & GUTTER.
6	SAWCUT, DEMOLISH AND REMOVE EXISTING PCC PAVEMENT AND BASE, 8"±.
7	PROTECT IN-PLACE EXISTING PCC CURB.
8	PROTECT IN-PLACE EXISTING PCC HARDSCAPE.
9	PROTECT IN-PLACE EXISTING AC PAVEMENT.
10	PROTECT IN-PLACE EXISTING SURFACE MANIFESTATIONS.
11	PROTECT IN-PLACE EXISTING SURFACE MANIFESTATIONS, ADJUST TO PROPOSED HARDSCAPE ELEVATIONS.



EXISTING CONDITION AND DEMOLITION PLAN

PROPOSED IMPROVEMENTS

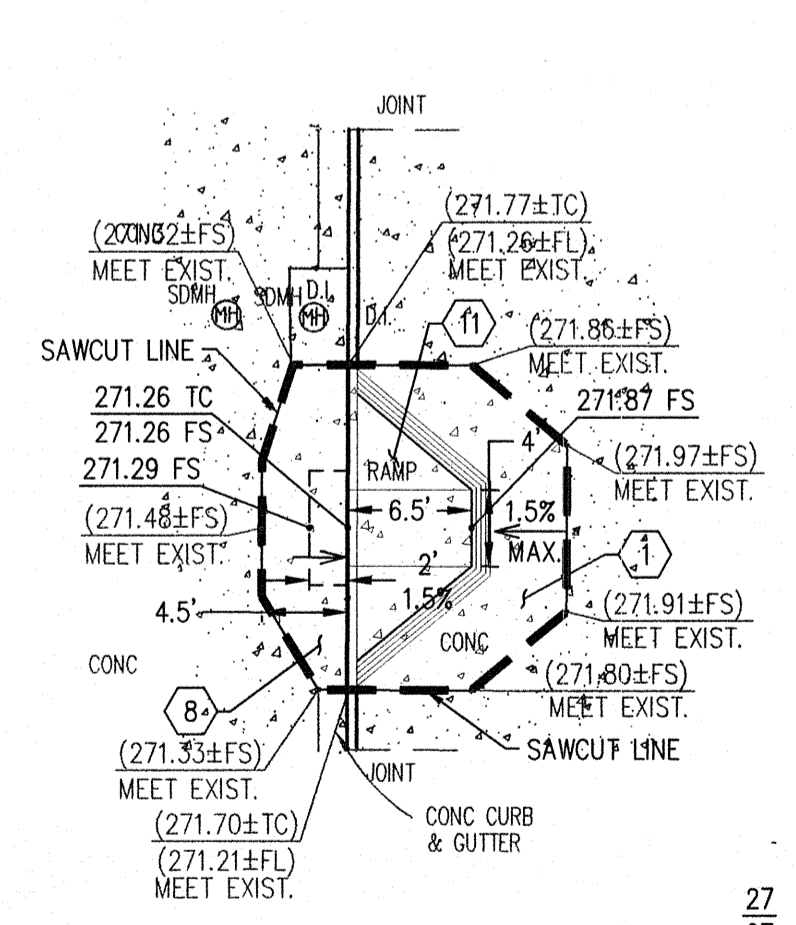
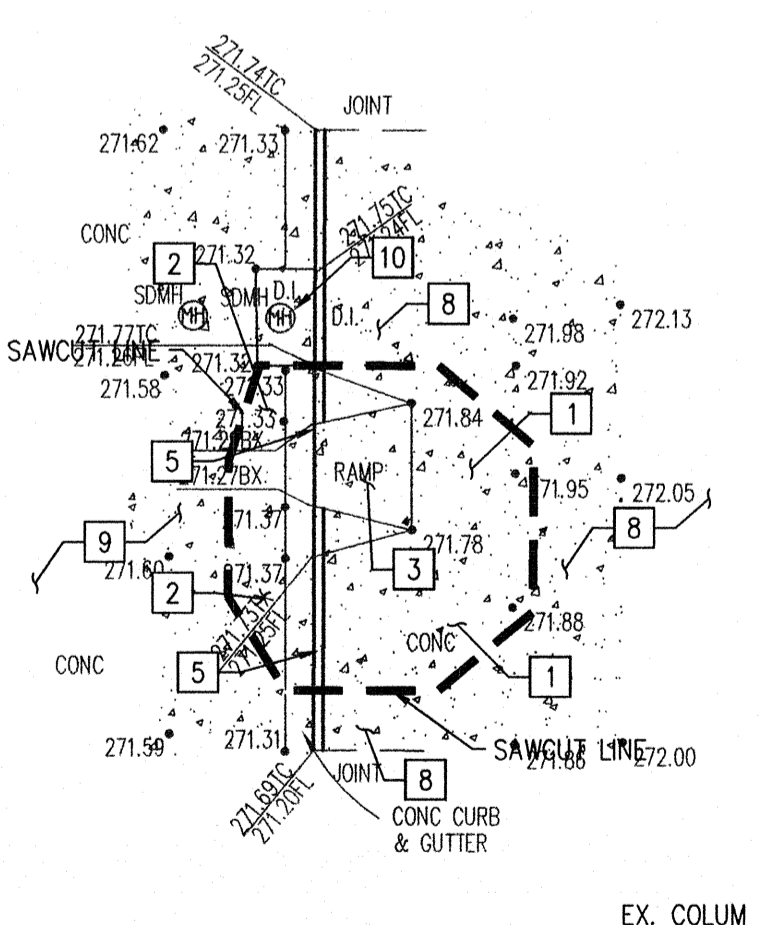
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EXISTING CONDITION AND DEMOLITION PLAN

PROPOSED IMPROVEMENTS

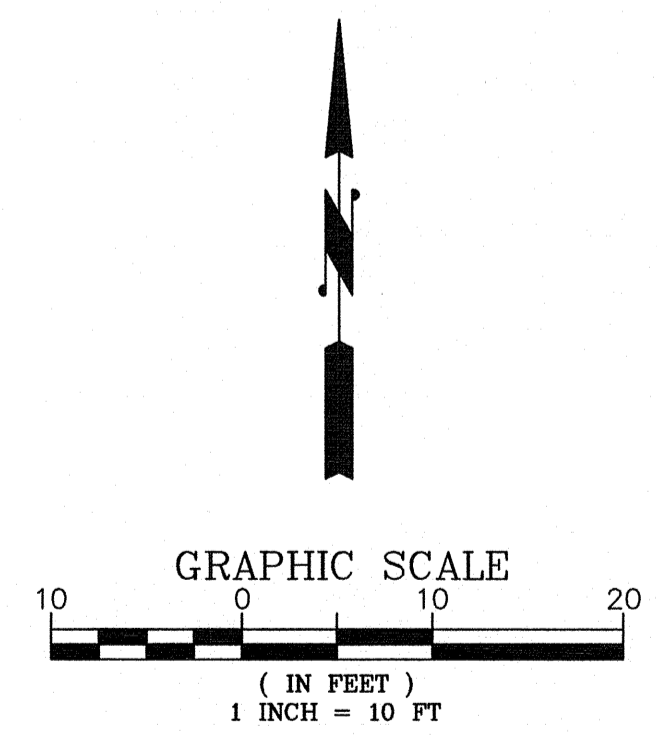
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EXISTING CONDITION AND DEMOLITION PLAN

PROPOSED IMPROVEMENTS

CURB RAMP #4



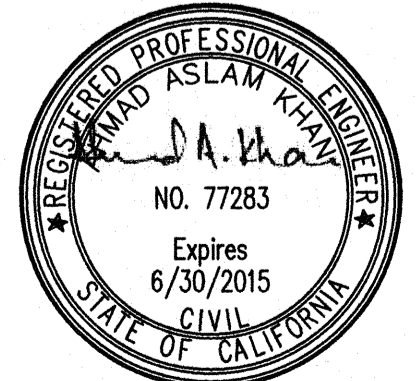
Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA

SHEET TITLE: EXISTING CONDITIONS, DEMOLITION, AND IMPROVEMENT PLAN	SHEET NUMBER: C-1.1
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CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 25 OF 27 SHEETS

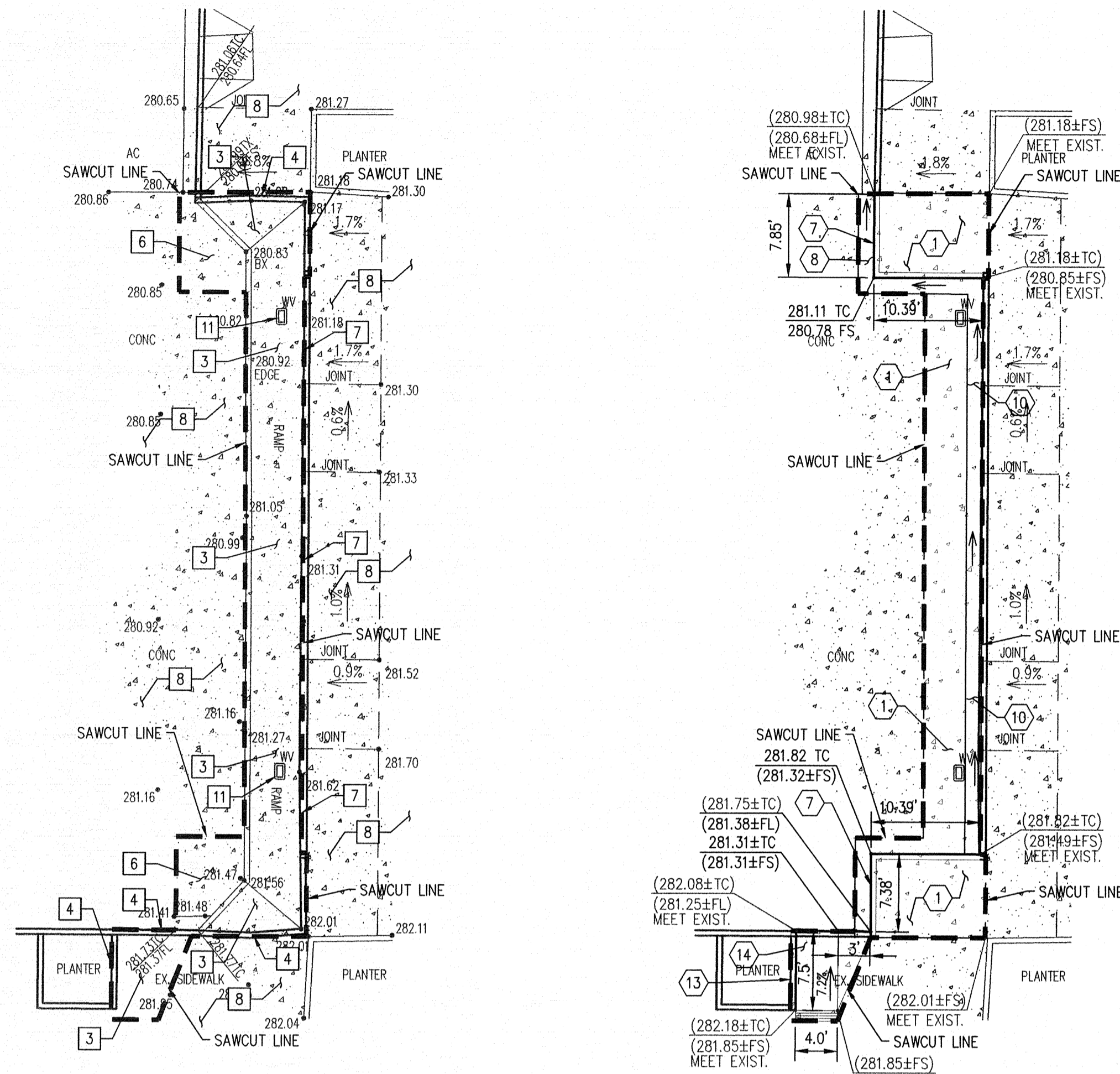
FOR CITY ENGINEER	DATE	ALI DARVISHI
DESCRIPTION	BY	APPROVED
ORIGINAL	ABAM	2/7/2014
PROJECT MANAGER		COSELYN GOODRICH
PROJECT NUMBER		206-1719
COORDINATOR		CCS27
COORDINATOR		6280407-1846444
COORDINATOR		CCS83
CONTRACTOR	DATE STARTED	37593-25-D
INSPECTOR	DATE COMPLETED	



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10525 Vista Serrento Parkway, Suite 350, San Diego, CA 92121
506 West Graham Avenue, Suite 104, Lake Elsinore, CA 92530
(858) 500-4500 Fax: (858) 500-4501

DATE:	04/15/14
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DESIGN BY:	SLL/AAK
DRAWN BY:	SLL
REVIEWED BY:	AAK

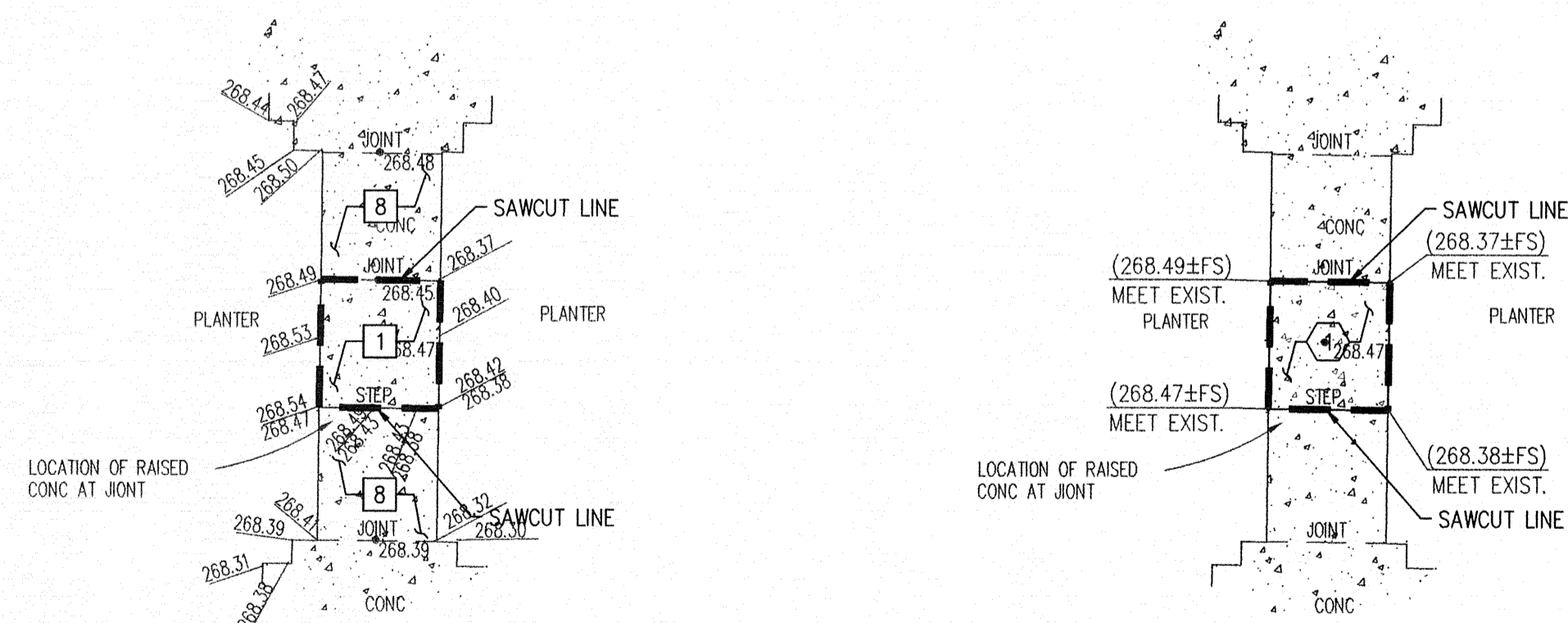
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EXISTING CONDITION AND DEMOLITION PLAN

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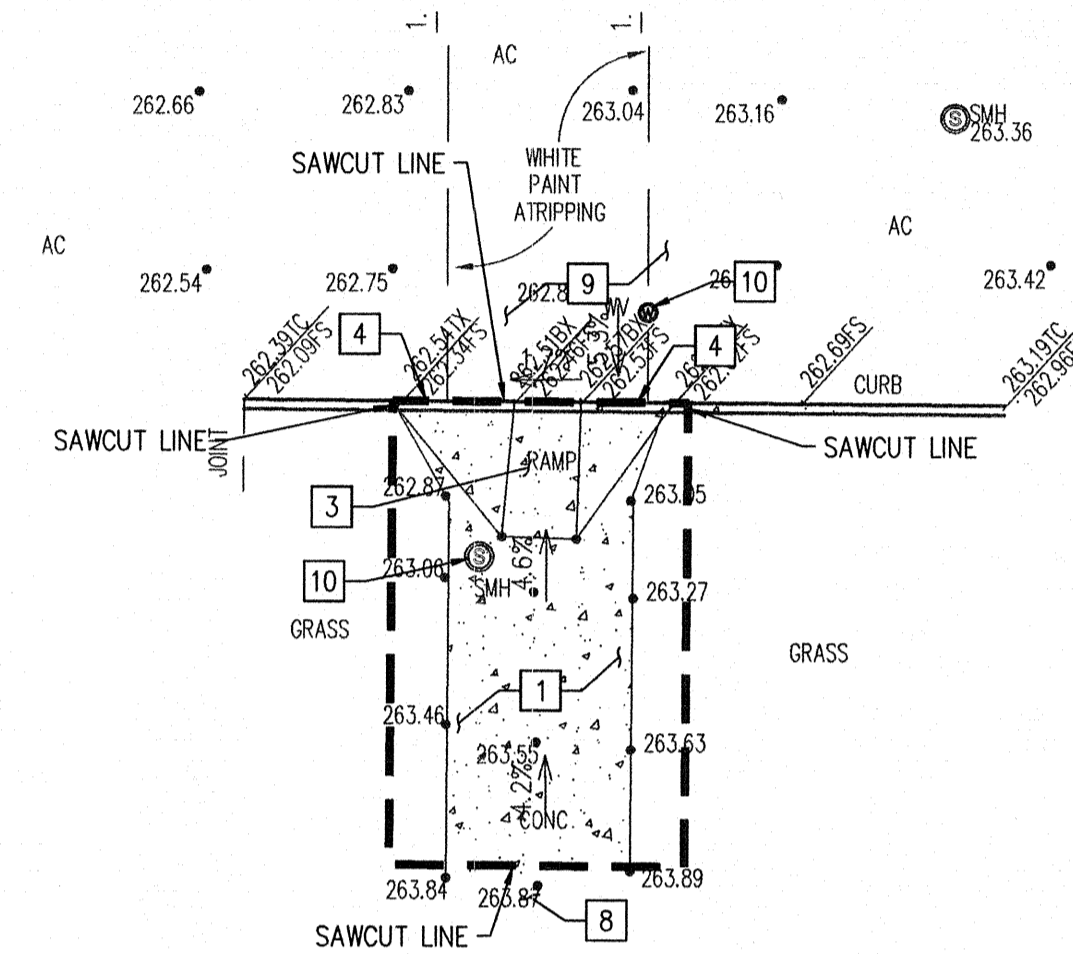
PROPOSED IMPROVEMENTS



EXISTING CONDITION AND DEMOLITION PLAN

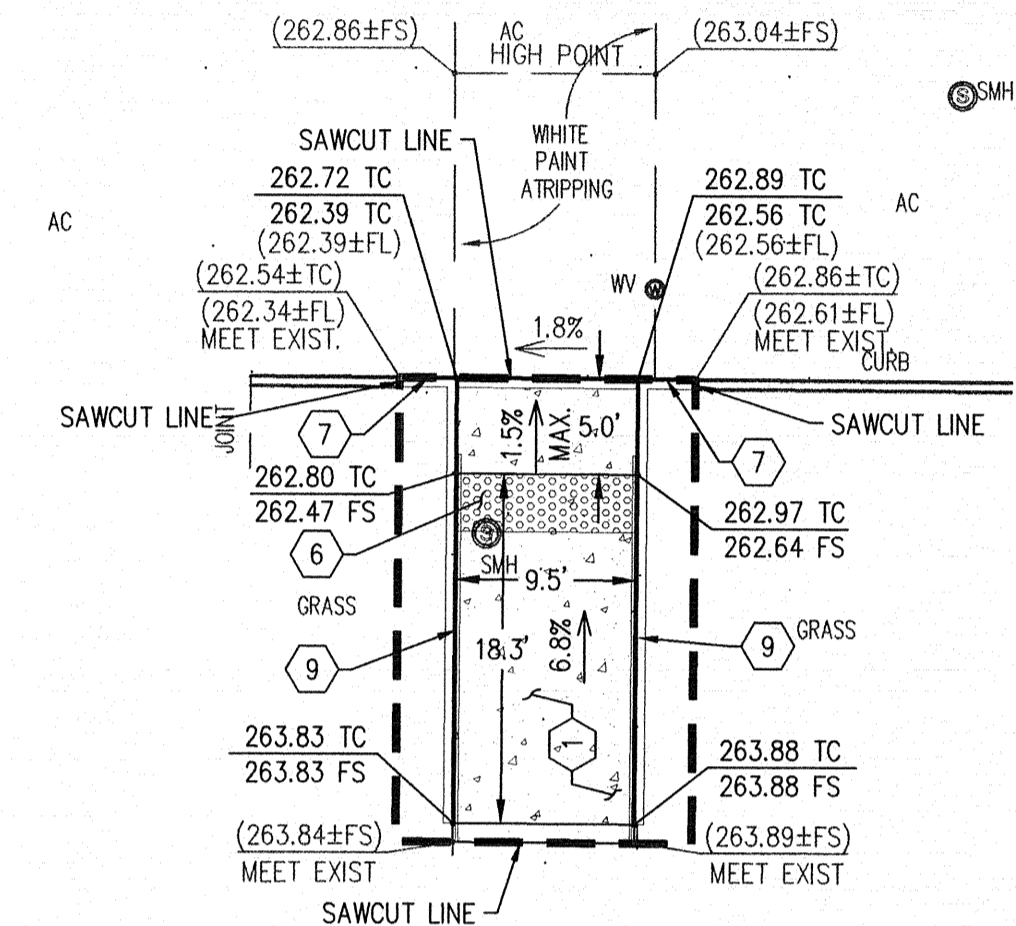
SIDEWALK #13

PROPOSED IMPROVEMENTS



EXISTING CONDITION AND DEMOLITION PLAN

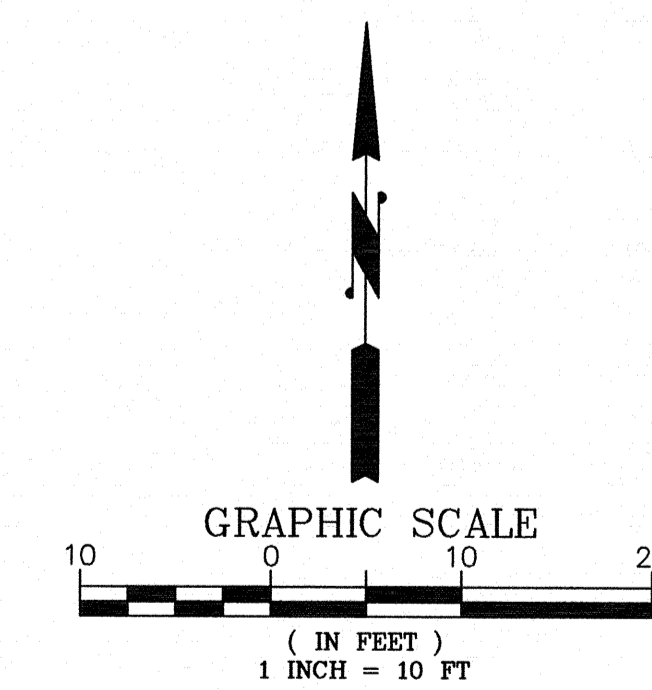
CURB RAMP #9



PROPOSED IMPROVEMENTS

DEMOLITION KEY NOTES	
1	SAWCUT, DEMOLISH AND REMOVE EXISTING 6"± P.C.C. HARDSCAPE.
2	SAWCUT, DEMOLISH AND REMOVE EXISTING AC PAVEMENT AND BASE, 10"±.
3	SAWCUT, DEMOLISH AND REMOVE EXISTING CURB RAMP.
4	SAWCUT, DEMOLISH AND REMOVE PORTION OF EXISTING CURB.
5	SAWCUT, DEMOLISH AND REMOVE EXISTING PCC CURB & GUTTER.
6	SAWCUT, DEMOLISH AND REMOVE EXISTING PCC PAVEMENT AND BASE, 8"±.
7	PROTECT IN-PLACE EXISTING PCC CURB.
8	PROTECT IN-PLACE EXISTING PCC HARDSCAPE.
9	PROTECT IN-PLACE EXISTING AC PAVEMENT.
10	PROTECT IN-PLACE EXISTING SURFACE MANIFESTATIONS.
11	PROTECT IN-PLACE EXISTING SURFACE MANIFESTATIONS, ADJUST TO PROPOSED HARDSCAPE ELEVATIONS.

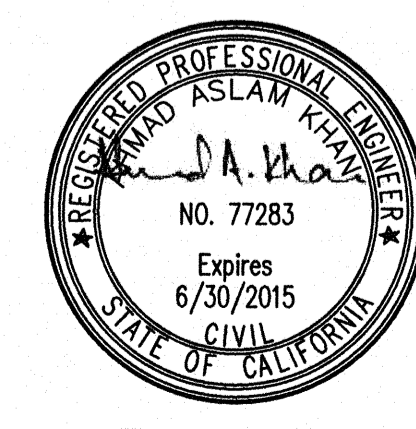
KEY NOTES	
1	FURNISH AND INSTALL 5" PCC HARDSCAPE OVER 2" SAND AT 95% CONTRACTOR TO MATCH EXISTING PAVEMENT MATERIAL COLOR AND TEXTURE.
3	FURNISH AND INSTALL FULL DEPTH 10" THICK PAVEMENT SECTION. CONTRACTOR TO MATCH EXISTING PAVEMENT MATERIAL COLOR AND TEXTURE.
6	FURNISH AND INSTALL DETECTABLE TACTILE WARNING TILES, GRAY IN COLOR, PER ACCESS PRODUCTS INC. 2X3 REPLACEABLE CAST IN PLACE INLINE DOME TILE, ACC-R-2X3, OR APPROVED EQUAL.
7	FURNISH AND INSTALL P.C.C. CURB, PER SDG-150. MATCH EXISTING CURB HEIGHT, STYLE, COLOR AND TEXTURE.
8	FURNISH AND INSTALL P.C.C. CURB AND GUTTER, PER SDG-151. (MODIFIED: GUTTER WIDTH VARIES FROM 4.0' - 1.5"). MATCH EXISTING CURB HEIGHT, STYLE, COLOR AND TEXTURE. GUTTER TO MATCH EXISTING ADJACENT PAVEMENT, STYLE, COLOR AND TEXTURE.
9	HANDRAILS PER DETAIL D-1, D-2, D-3, D-4, SHEET C2.1.
10	FURNISH AND INSTALL 18" WIDE P.C.C. GUTTER, PER SDG-150. MATCH EXISTING STYLE, COLOR AND TEXTURE.
13	FURNISH AND INSTALL 6" WIDE AND HEIGHT PLANTER CURB. MATCH EXISTING PLANTER CURB HEIGHT, STYLE, COLOR AND TEXTURE.
14	FURNISH AND INSTALL CONCRETE ADA COMPLIANT RAMP, MODIFIED SDG-132 TYPE "B". SEE DETAIL "B", SHEET C2.1.



Platt/Whitelaw Architects, Inc.
 4034 30th Street, SAN DIEGO CA 92104
 (619) 548-4326 FAX (619) 548-4350
 PWA PROJECT #: 0409

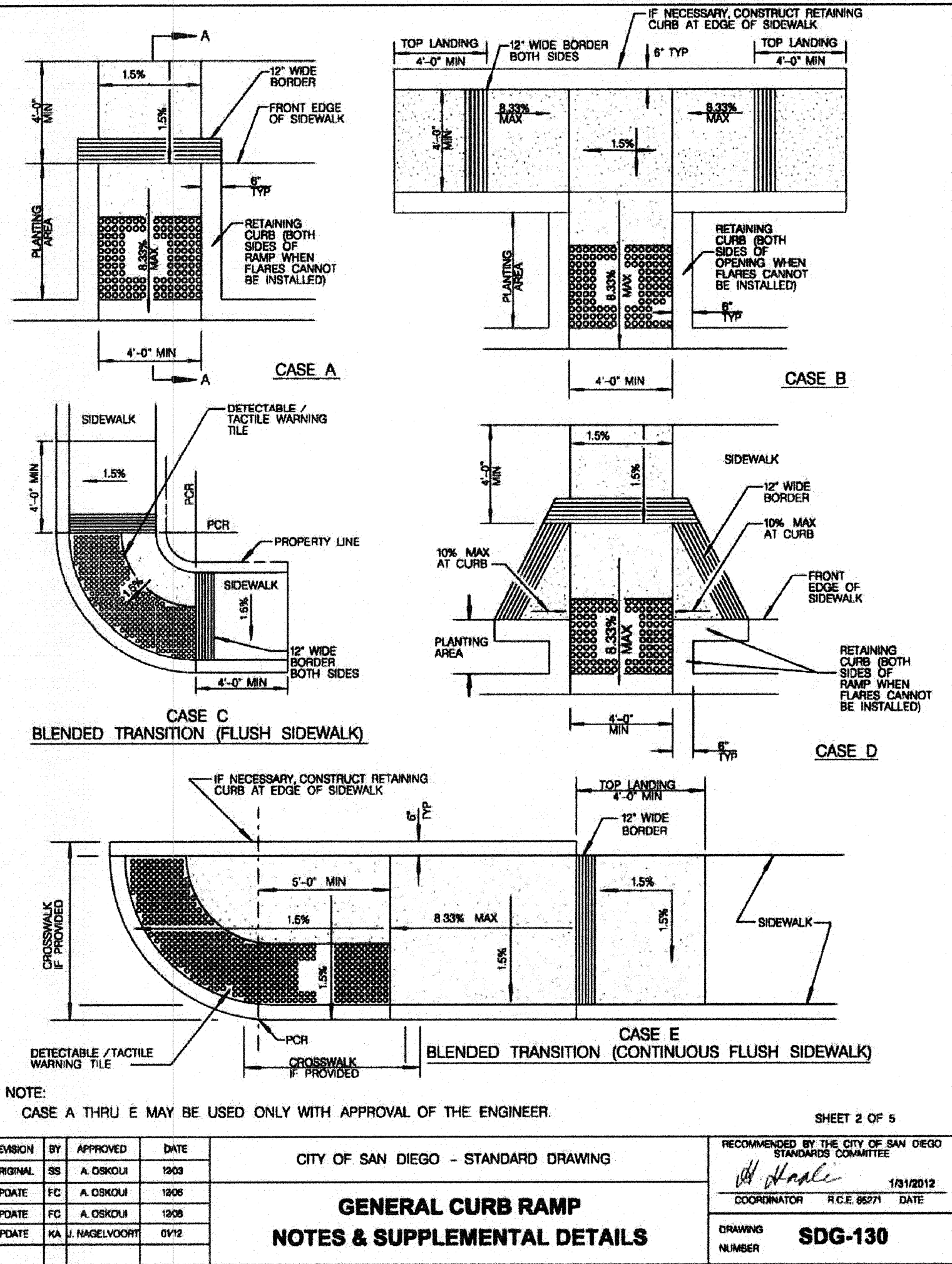
BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA

SHEET TITLE: EXISTING CONDITIONS, DEMOLITION, AND IMPROVEMENT PLAN		SHEET NUMBER: C-1.2
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 26 OF 27 SHEETS		WBS: B-13018
DATE: 04/15/14 PLOTTED: 10:43 A FLC PROJECT NO.: A14.0244 DESIGN BY: SLL/AAK DRAWN BY: SLL REVIEWED BY: AAK		ALT. DARVISHI SECTION HEAD
FOR CITY ENGINEER: [Signature] DATE: 4/18/14		COSELYN GOODRICH PROJECT MANAGER
DESCRIPTION: ORIGINAL BY: ABAM APPROVED: ABAM DATE: 2/7/2014 FILMED:		206-1719 CCS27 COORDINATE 6280407-1846444 CCS83 COORDINATE
CONTRACTOR INSPECTOR: DATE STARTED: DATE COMPLETED:		37593-26-D

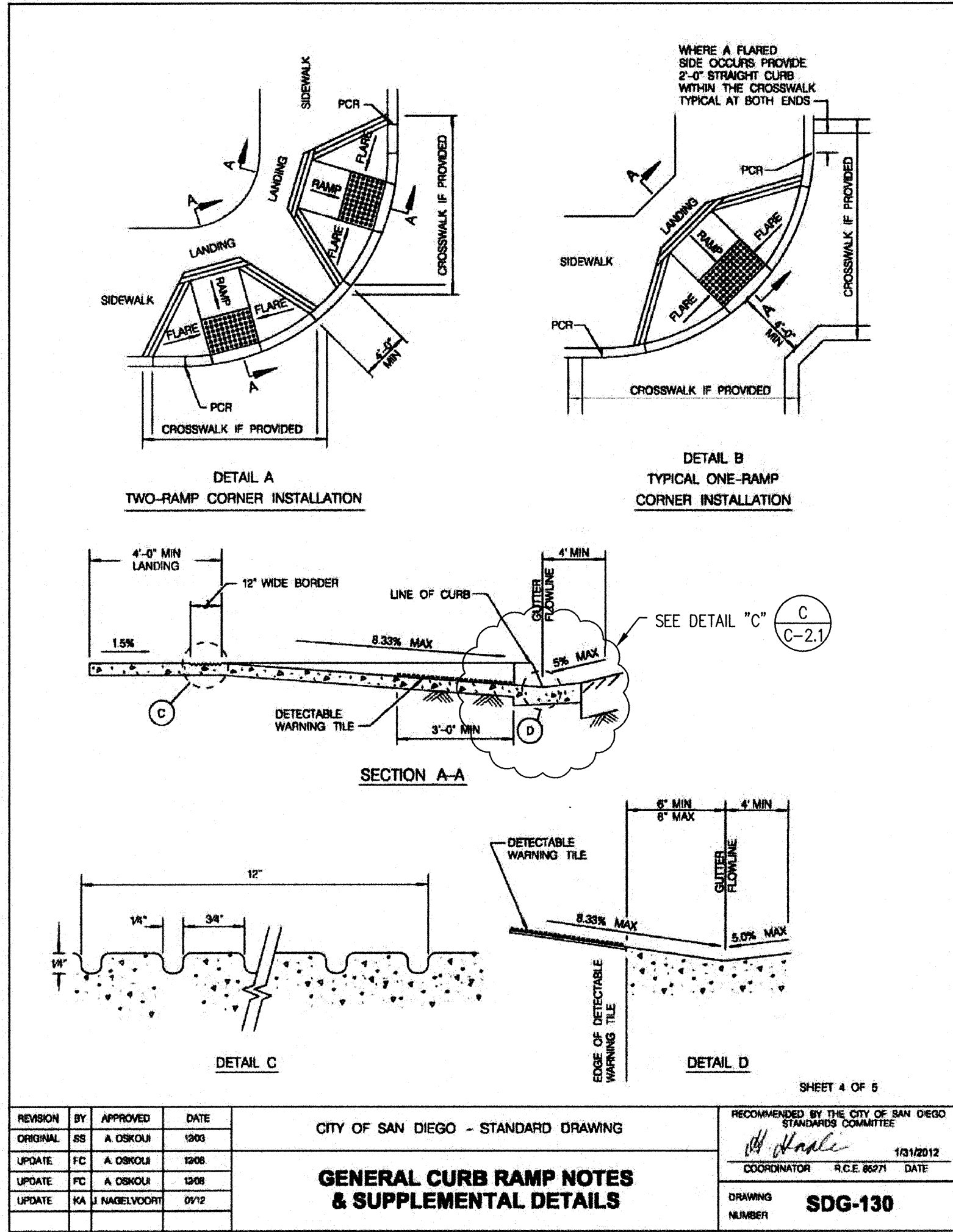


BergerABAM
 10525 Vista Serrento Parkway, Suite 350, San Diego, CA 92121
 506 West Graham Avenue, Suite 104, Lake Elsinore, CA 92530
 (858) 500-4500 Fax: (858) 500-4501

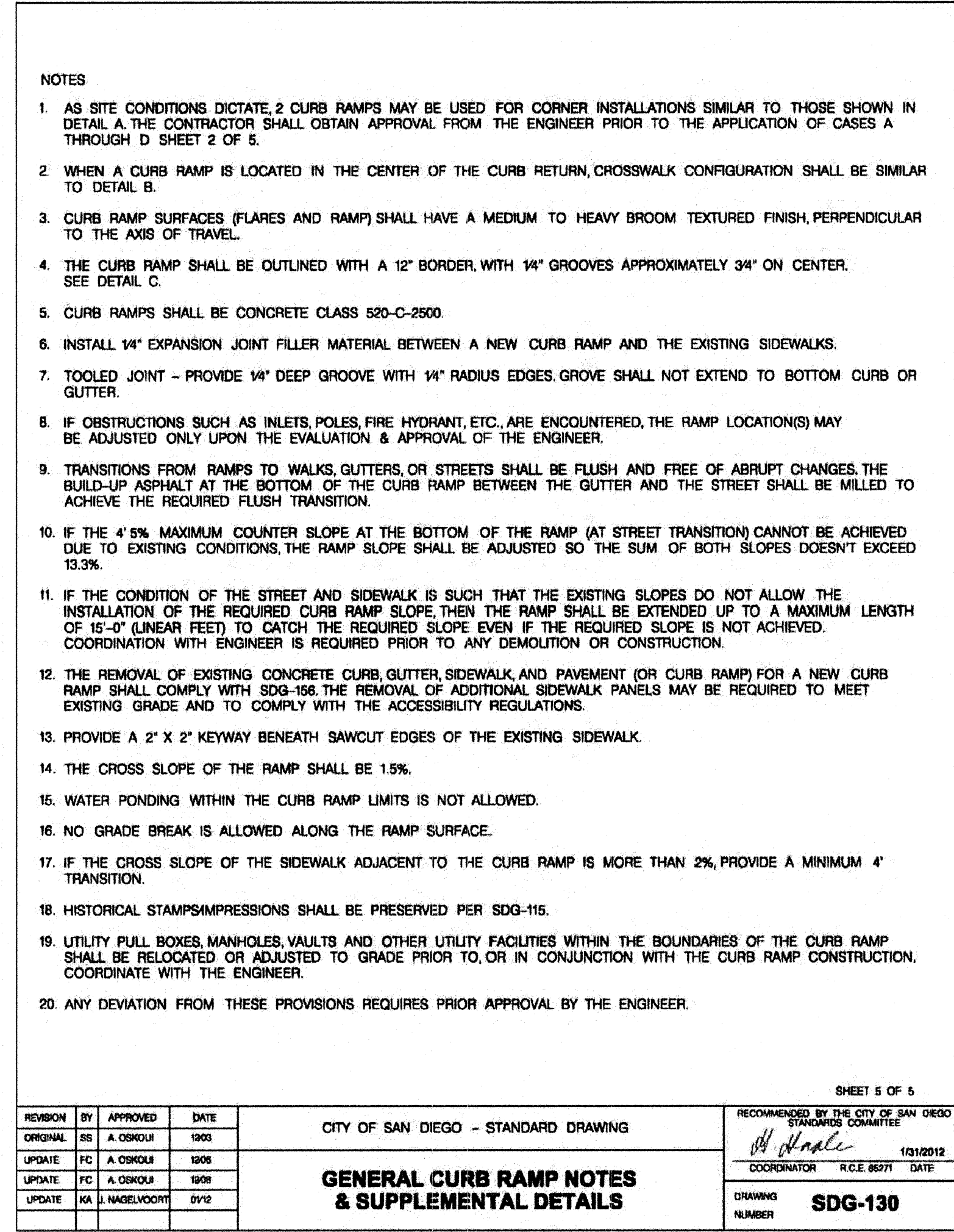
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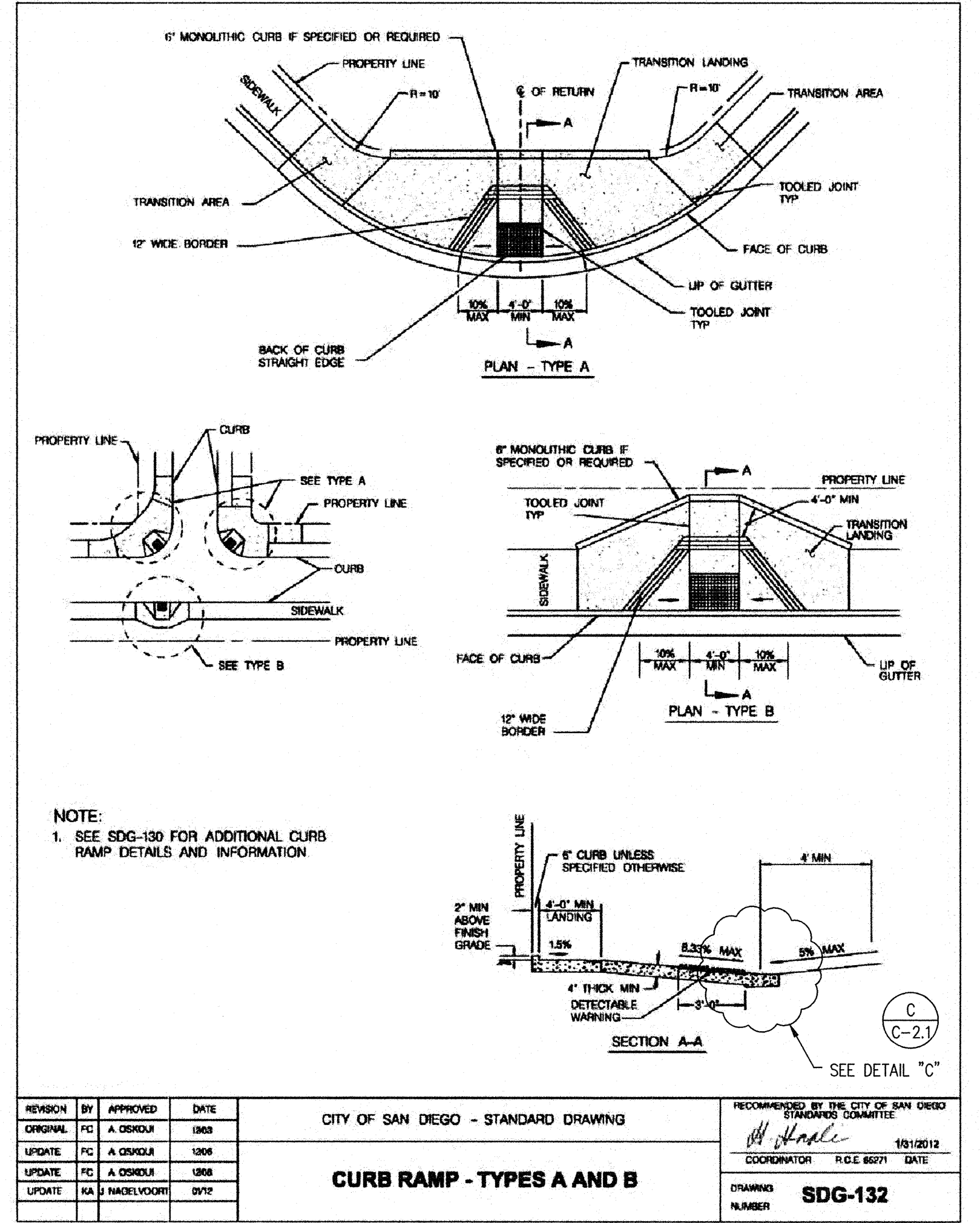
CURB RAMP DETAILS - CASE "A", CASE "E"
 NOT TO SCALE



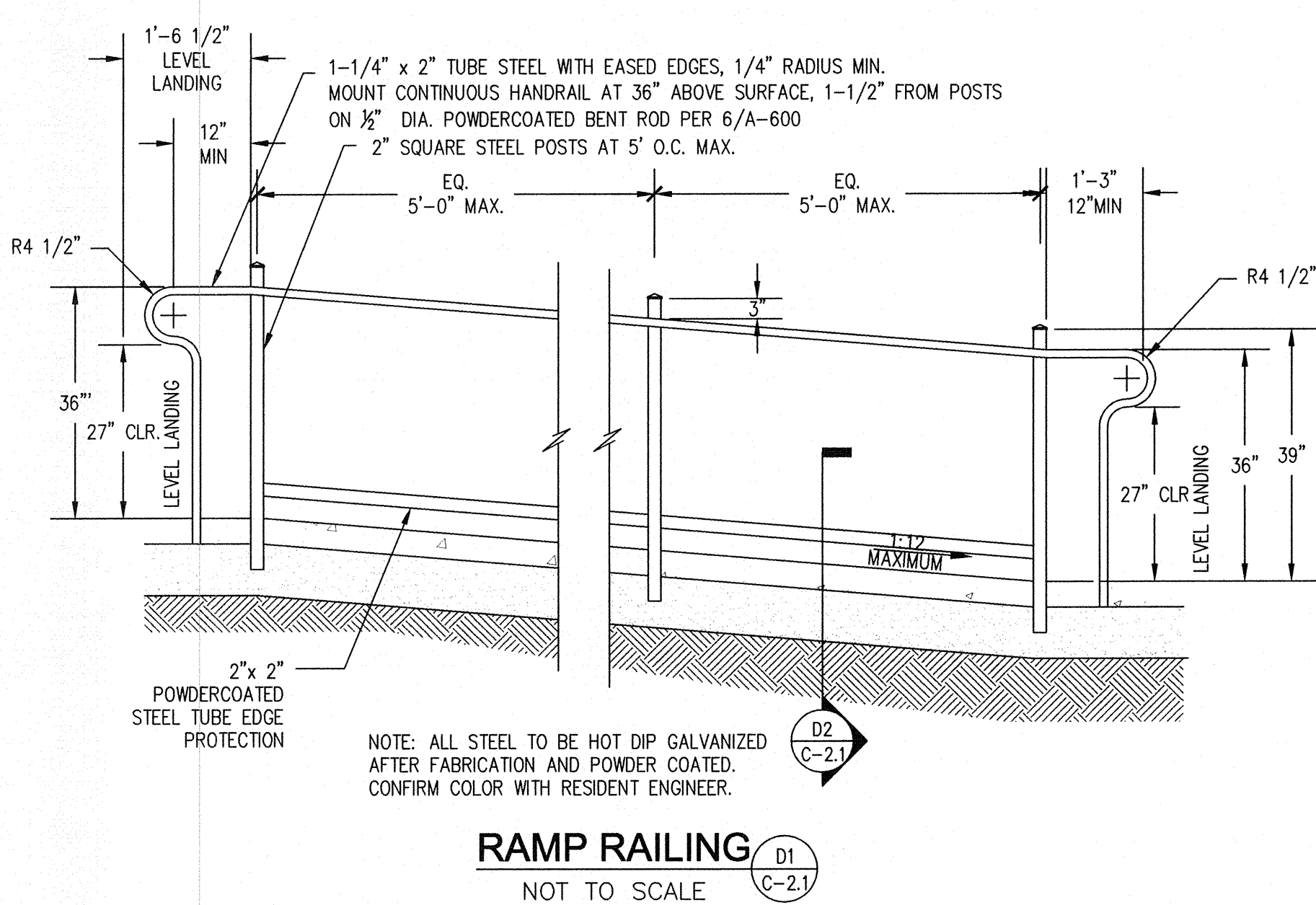
CURB RAMP GENERAL NOTES - CASE "A", CASE "E"
 NOT TO SCALE



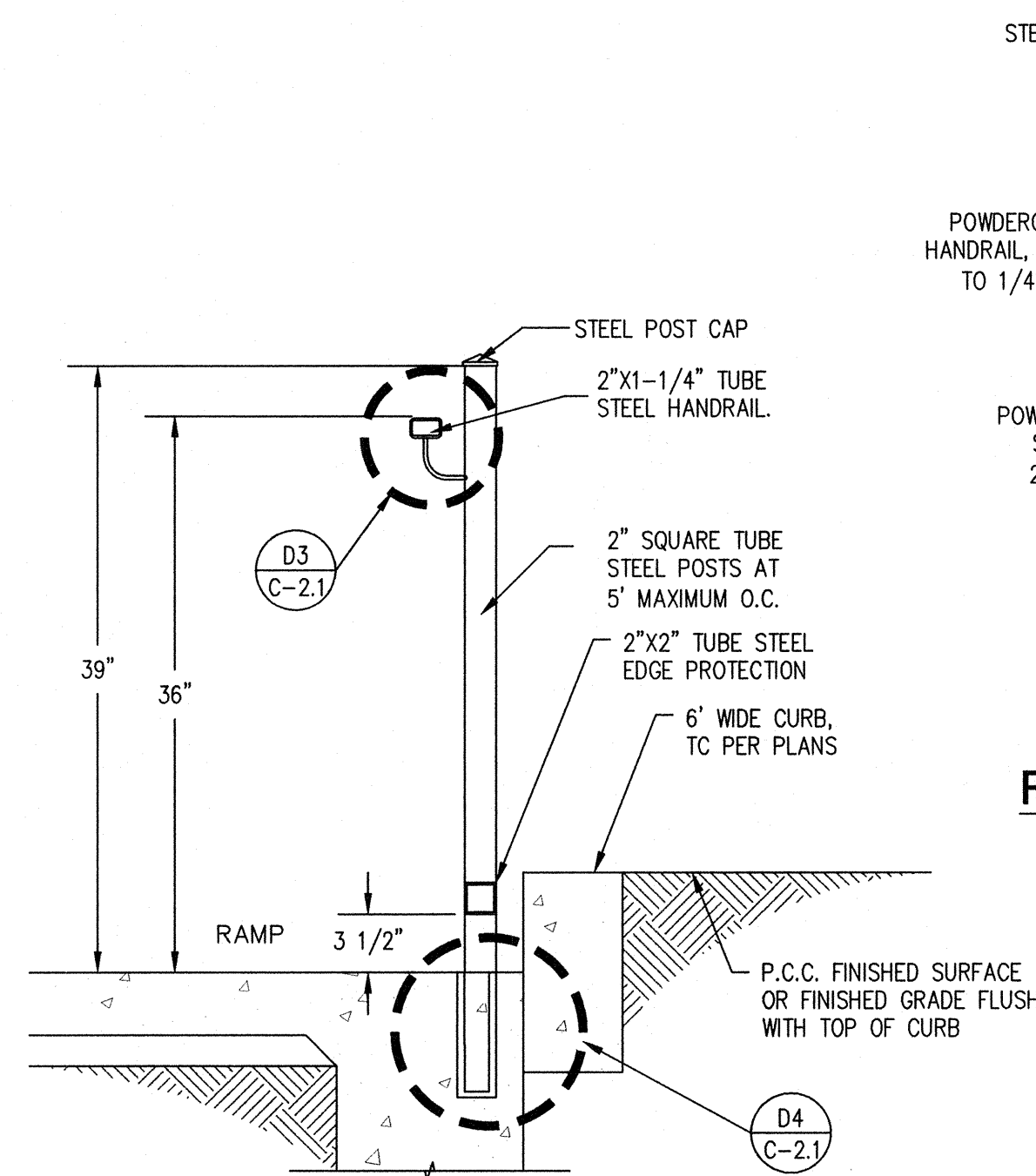
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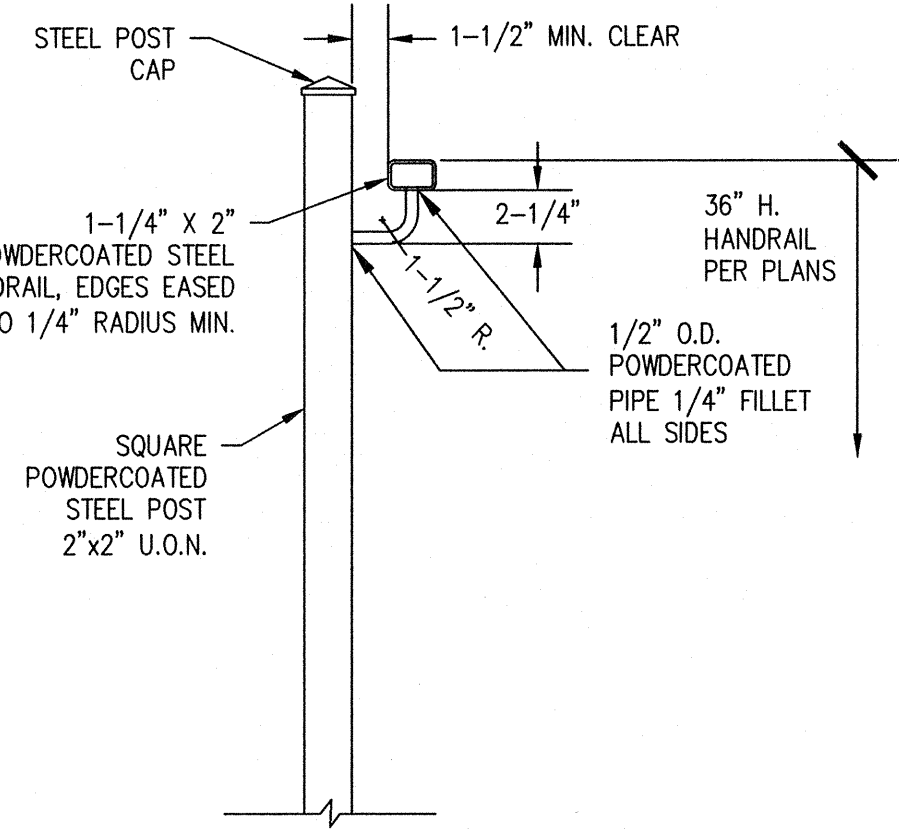
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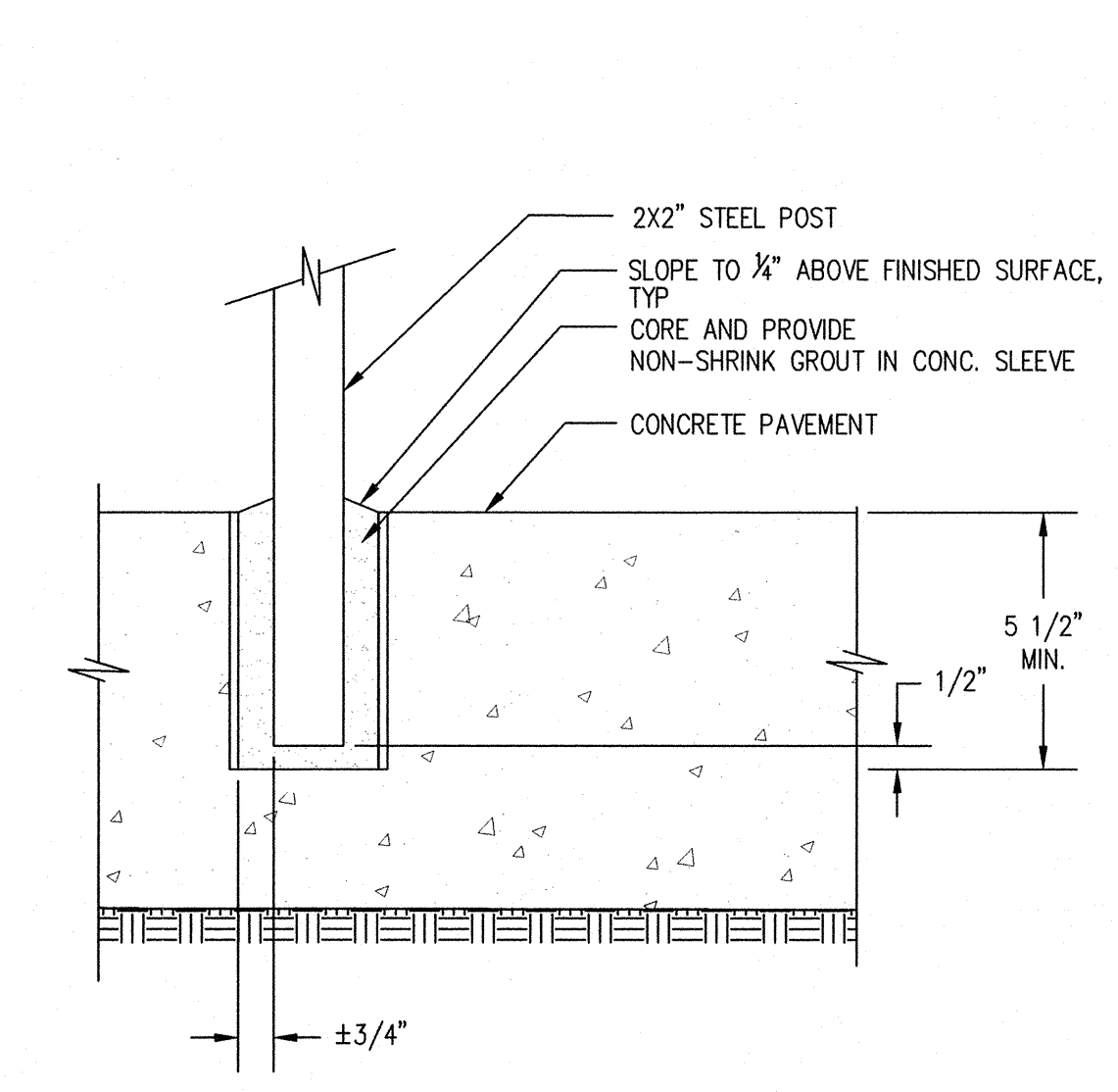
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 NOT TO SCALE



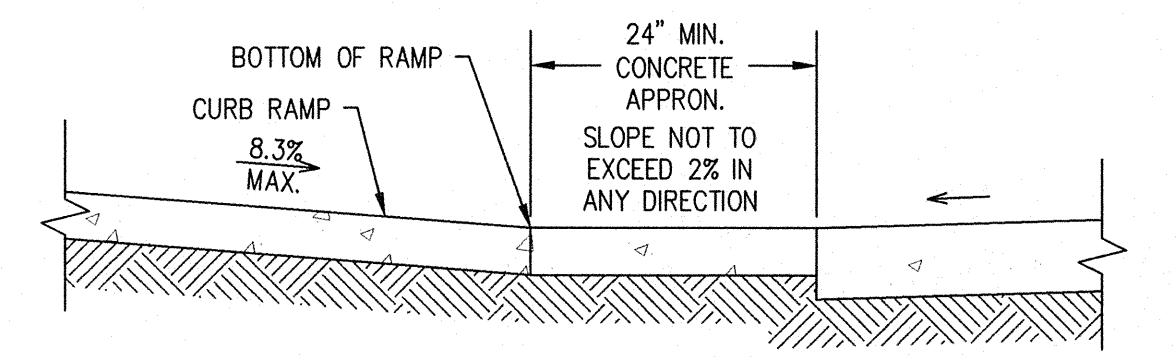
RAMP RAILING SECTION
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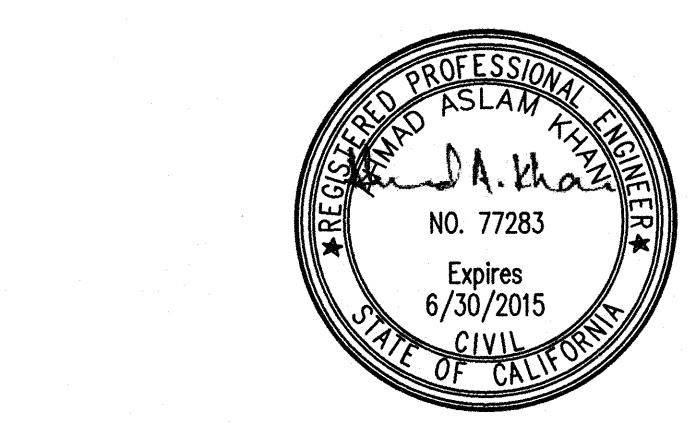
RAMP EDGE RAIL SUPPORT
 NOT TO SCALE



RAILING SUPPORT @ CONCRETE BASE
 NOT TO SCALE



CONCRETE APRON DETAIL
 NOT TO SCALE



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 (858) 500-4500 Fax: (858) 500-4501

DATE:	04/15/14
PLOTTED:	11:05 A
FLC PROJECT NO.:	A14.0244
DESIGN BY:	SLL/AAK
DRAWN BY:	SLL
REVIEWED BY:	AAK

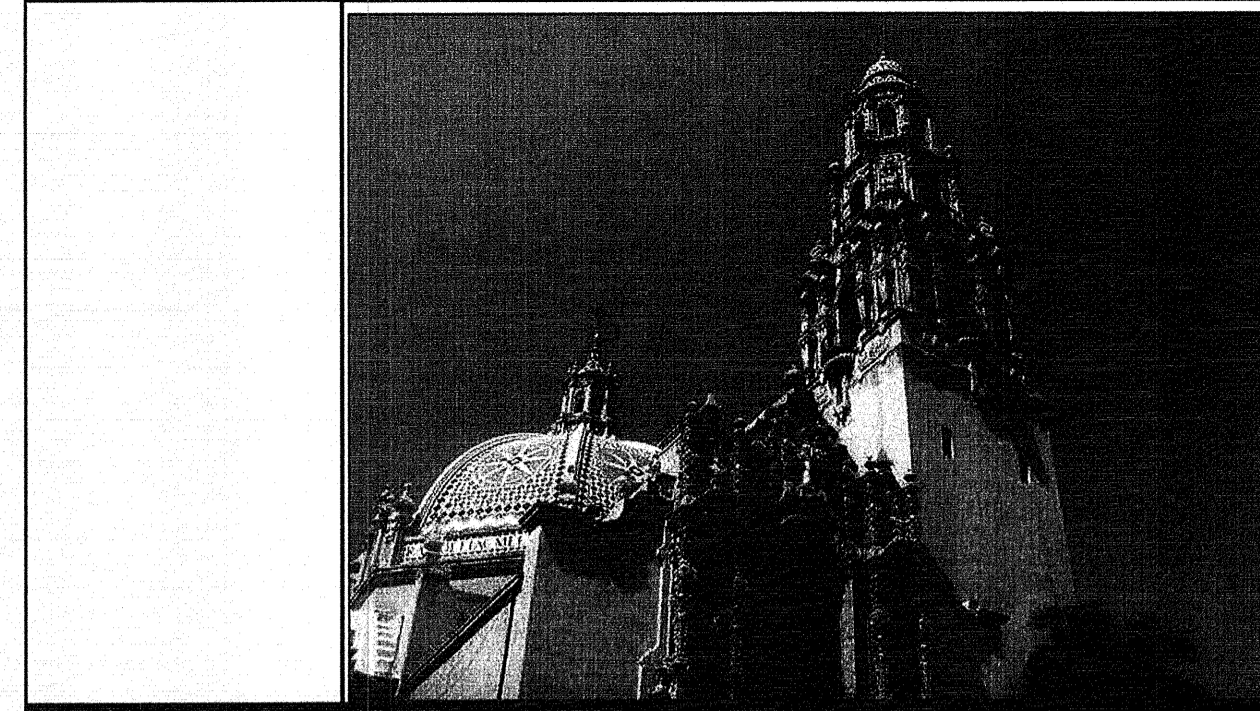
Platt/Whitelaw Architects, Inc.
 4034 30th Street, SAN DIEGO CA 92104
 (619) 546-4326 FAX (619) 546-4350

PWA PROJECT #: 0409

BALBOA PARK ADA BARRIER REMOVAL - CASA DE BALBOA

SHEET TITLE:	DETAILS	SHEET NUMBER:	C-2.1
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 27 OF 27 SHEETS		WBS B-13018	
FOR CITY ENGINEER		DATE 4/18/14	
DESCRIPTION	BY	APPROVED	DATE
ORIGINAL	ABAM		2/7/2014
ALI DARVISHI SECTION HEAD		COSELYN GOODRICH PROJECT MANAGER	
		206-1719	
		CCS27 COORDINATOR	
		6280407-1846444	
		CCS83 COORDINATOR	
CONTRACTOR	DATE STARTED	37593-27-D	
INSPECTOR	DATE COMPLETED		

NEW SHEET



BALBOA PARK ADA BARRIER REMOVAL

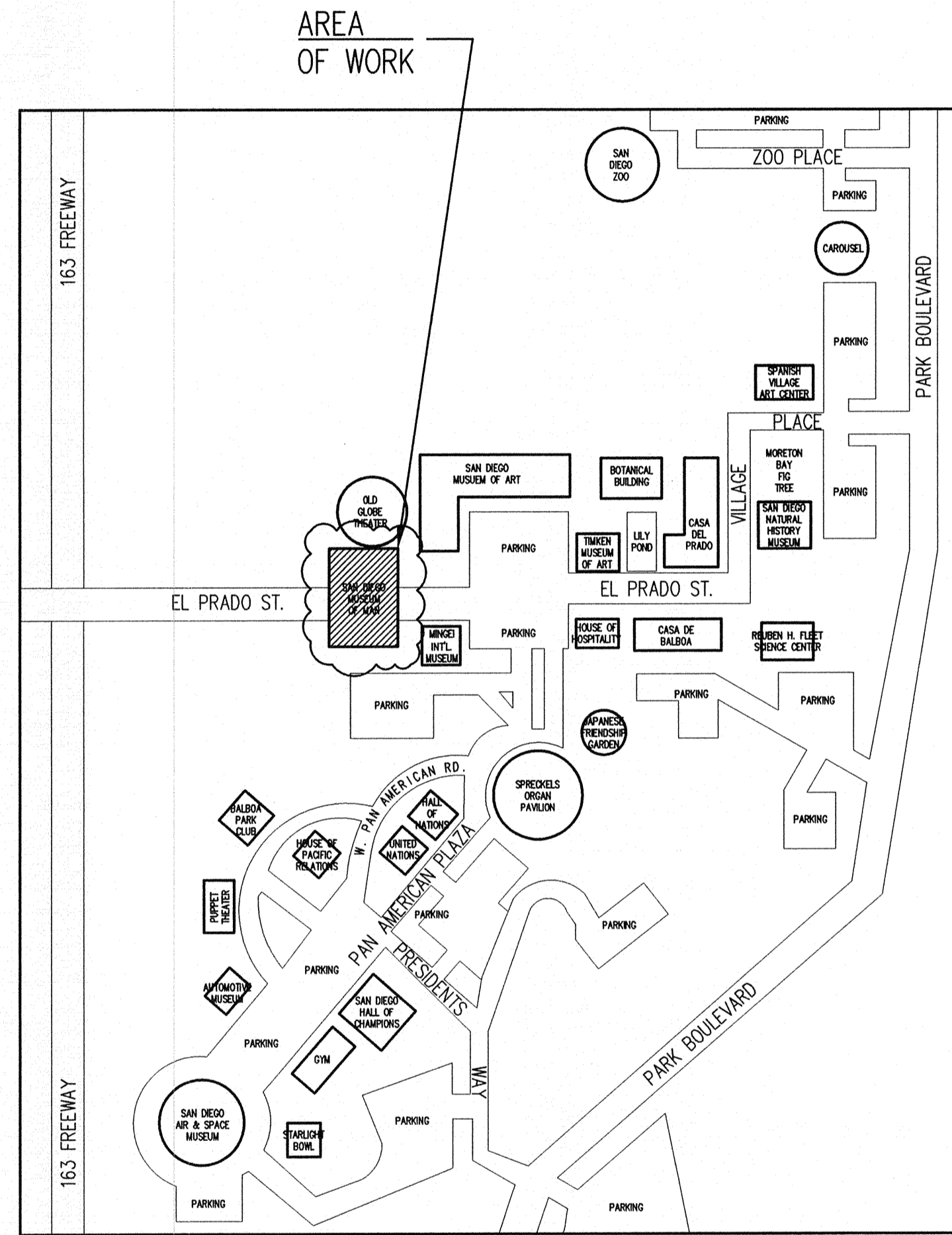
MUSEUM OF MAN

1350 EL PRADO, SAN DIEGO, CA 92101

SHEET INDEX

GENERAL	
1. G-001	TITLE SHEET, SHEET INDEX AND DIRECTORY
2. G-002	GENERAL NOTES & ABBREVIATIONS
SITE	
3. A-002	SITE PLANS & DETAILS
ARCHITECTURAL	
4. A-101	FLOOR PLANS
5. A-102	ENLARGED FLOOR PLANS
6. A-103	ELEVATIONS & DETAILS
7. A-500	SIGNAGE DETAILS
PLUMBING	
8. P-0.1	PLUMBING NOTES & SCHEDULES
9. P-1.0	PLUMBING FLOOR PLAN
ELECTRICAL	
10. E-001	SYMBOLS & NOTES
11. E-101	ELECTRICAL FLOOR PLANS

LOCATION MAP



PARK CONSTRUCTION INSPECTION STAGES AND INSPECTION TEAM

- PARK INSPECTION TEAM**
- SITE SUPERINTENDENT (CONTRACTOR/DEVELOPER'S REPRESENTATIVE)
 - CONTRACTOR(S)
 - RESIDENT ENGINEER FROM FIELD ENGINEERING DEPARTMENT
 - CITY PROJECT MANAGER
 - DESIGN CONSULTANT
 - PARK AND RECREATION DISTRICT MANAGER
 - PARK AND RECREATION ASSET MANAGER
- PARK CONSTRUCTION INSPECTION STAGES: (MINIMUM DEPENDING ON PROJECT)**
- PRE-CONSTRUCTION MEETING.
 - PROJECT CONSTRUCTION 90 PERCENT COMPLETE (DEVELOP PUNCH LIST AND SUBMIT RED-LINE AS-BUILTS.
 - FINAL WALK-THROUGH, ACCEPTANCE BY THE CITY. CONTRACTOR TO SUBMIT FINAL APPROVED AS-BUILT DRAWINGS TO THE CITY.

PROJECT DIRECTORY

CLIENT/LEGAL OWNER
CITY OF SAN DIEGO
PUBLIC WORKS DEPARTMENT
ENGINEERING & CAPITAL PROJECTS
600 B STREET 8TH FLOOR,
SAN DIEGO, CA 92101
COSELYN GOODRICH, PROJECT MANAGER
(619) 533-4633
YOVANNA HANNA, PROJECT ENGINEER
(619) 533-5130

STRUCTURAL ENGINEER
FLORES LUND CONSULTANTS/BERGER ABAM
10525 VISTA SORRENTO PARKWAY, SUITE 350
SAN DIEGO, CA 92121
PH: (858) 500-4500
FAX: (858) 500-4501
CRAIG VOSS

MECHANICAL ENGINEER
BENDER DEAN ENGINEERING
438 CAMINO DEL RIO SOUTH, SUITE 217
SAN DIEGO, CA 92108
PH: (619) 704-1900
FAX: (858) 427-1608
JOHN PERALES

ELECTRICAL ENGINEER
TURPIN & RATTAN ENGINEERING, INC.
4719 PALM AVENUE
LA MESA, CA 91941
PH: (619) 466-6224
FAX: (619) 466-6233
KARL PORTS

ARCHITECT
PLATT/WHITELAW ARCHITECTS, INC.
4034 30TH STREET
SAN DIEGO, CA 92104
PH: (619) 546-4326
FAX: (619) 546-4350
SANDRA GRAMLEY, PROJECT ARCHITECT

REMODELING NOTES

DESCRIPTION OF WORK:

THE WORK SHALL INCLUDE THE FURNISHING OF ALL NECESSARY MATERIALS AND EQUIPMENT, LABOR FOR DEMOLITION, CUTTING AND PATCHING AND RELATED WORK REQUIRED AS PREPARATION FOR TENANT IMPROVEMENTS. NEW WORK IS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. WHERE A SPECIFIC ITEM IS NOT SPECIFIED OR SPECIFICALLY SHOWN, THE MATERIAL AND INSTALLATION SHALL MATCH THE EXISTING ADJACENT WORK. UPON COMPLETION OF THE WORK PERFORMED UNDER THE CONTRACT DOCUMENTS, LEAVE THE WORK BLENDED IN WITH AND BONDED OR SECURED TO EXISTING WORK. PATCHED AND REPAIRED AREAS SHALL BE IN TRUE PLANES WITH CLEAR LINES, SHARP CORNERS, TIGHT JOINTS, AND OTHER REQUIREMENTS AS REQUIRED FOR NEW CONSTRUCTION OF RESPECTIVE TRADES.

SEQUENCING AND COORDINATION:

SOME OF THE EXISTING SPACES TO BE REMODELED ARE IN USE AND PART OF THE AREA MUST REMAIN IN USE DURING DEMOLITION AND CONSTRUCTION. ALL EXISTING FACILITIES SHALL BE PROTECTED FROM DUST AND WATER DURING DEMOLITION, RECONSTRUCTION, AND RENOVATION. THE CONTRACTOR SHALL COORDINATE PHASING OF WORK WITH THE RESIDENT ENGINEER TO ALLOW FOR EXISTING FACILITIES TO BE KEPT OPERATING AND PROTECTED.

CITY OF SAN DIEGO POLICY COMPLIANCE

- BACKFLOW DEVICE IS EXISTING AND SHALL BE PROTECTED AS PART OF THIS PROJECT
- COMPLY WITH HAZARDOUS MATERIALS PER CITY OF SAN DIEGO BULLETIN 116
- COMPLY WITH CONSTRUCTION AND DEMOLITION DEBRIS PER CITY BULLETIN 119
- COMPLY WITH STORM WATER REQUIREMENTS PER CITY OF SAN DIEGO STORM WATER MANAGEMENT PLAN AS DETERMINED BY FORM DS-560. PROJECT DOES NOT DISTURB MORE THAN 1 ACRE AND CREATES LESS THAN 5000 S.F. OF IMPERVIOUS SURFACE. PROJECT DOES NOT REQUIRE A PERMIT. PROJECT WILL REQUIRE CONSTRUCTION B.M.P. PER SECTION IV OF THE CITY OF SAN DIEGO'S STORM WATER STANDARDS MANUAL.

PHASING OF RESTROOM RENOVATIONS MUST BE UNDERTAKEN SUCH THAT ADEQUATE FACILITIES REMAIN AVAILABLE FOR USE BY THE PUBLIC. WHERE ADEQUATE FACILITIES CANNOT BE MAINTAINED ON SITE, APPROPRIATE ARRANGEMENTS SUCH AS PORTABLE FACILITIES OR DIRECTIONAL SIGNAGE TO GUIDE THE PUBLIC TO AVAILABLE FACILITIES MUST BE PROVIDED, TO THE SATISFACTION OF THE RESIDENT ENGINEER.

UNDERGROUND UTILITIES

BEFORE EXCAVATING, VERIFY THE LOCATION OF UNDERGROUND UTILITIES. AT LEAST THREE (3) WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR SHALL REQUEST A MARKOUT OF UNDERGROUND UTILITIES BY CALLING THE BELOW LISTED REGIONAL NOTIFICATION CENTER FOR AN INQUIRY IDENTIFICATION NUMBER:

UNDERGROUND SERVICE ALERT 800-422.4133
(GAS, ELECTRIC, TELEPHONE, WATER, SEWER, LIGHTING & T.V.)

CITY IRRIGATION SYSTEMS & WIRING 619-533.5783

CITY FACILITIES MAINTENANCE DIVISION 619-525-8500

RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED REASONABLE CARE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ARCHITECT OR ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

Sandra S. Gramley
SANDRA S. GRAMLEY C-21703
PLATT/WHITELAW ARCHITECTS INC. FEBRUARY 7, 2014 DATE

DESCRIPTION OF WORK

- VARIOUS VOLUNTARY BARRIER REMOVALS, INCLUDING:
- INTERIOR PATH OF TRAVEL IMPROVEMENTS TO STAIRS AND RAMP.
 - NEW DOORS AND DOOR HARDWARE
 - INSTALLATION/RELOCATION OF VISUAL ALARMS AND FIRE ALARM PULL STATIONS (DEFERRED SUBMITTAL- SEE BELOW)
 - NEW HI-LO DRINKING FOUNTAIN
 - DIRECTIONAL SIGNAGE
- AREA OF WORK LIMITED TO WHAT IS SHOWN ON PLANS.

DEFERRED SUBMITTALS

DEFERRED SUBMITTAL ITEMS: PLANS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT ALLOWS A MINIMUM OF 30 WORKING DAYS FOR INITIAL PLAN REVIEW. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTAL MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECK DIVISION PRIOR TO APPROVAL OF THE SUBMITTAL ITEMS. DEFERRED SUBMITTAL ITEMS IN THIS PROJECT INCLUDE:

- EXISTING FIRE ALARM SYSTEM ALTERATIONS (ALSO REFER TO FIRE ALARM SYSTEMS BULLETIN 137).

CONSTRUCTION & BUILDING CODES

- APPLICABLE BUILDING CODES:
- 2010 CA BLDG. STDS. ADMIN. CODE TITLE 24 OF CALIFORNIA CCR PART 1
 - 2010 CALIFORNIA BUILDING CODE TITLE 24 OF CALIFORNIA CCR PART 2
 - 2010 CALIFORNIA ELECTRICAL CODE TITLE 24 OF CALIFORNIA CCR PART 3
 - 2010 CALIFORNIA MECHANICAL CODE TITLE 24 OF CALIFORNIA CCR PART 4
 - 2010 CALIFORNIA PLUMBING CODE TITLE 24 OF CALIFORNIA CCR PART 5
 - 2010 CALIFORNIA ENERGY CODE TITLE 24 OF CALIFORNIA CCR PART 6
 - 2010 CALIFORNIA FIRE CODE TITLE 24 OF CALIFORNIA CCR PART 9
- ADDITIONAL APPLICABLE STANDARDS AND SPECIFICATIONS:
- 2012 GREENBOOK - STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION INCLUDING THE CITY OF SAN DIEGO WHITEBOOK, DOCUMENT NUMBER PITS090110-1, 2012 EDITION.
 - CONSULTANT'S GUIDE TO PARK PLANNING AND DEVELOPMENT, 2011 EDITION
 - CITY OF SAN DIEGO STANDARD DRAWINGS, INCLUDING ALL REGIONAL STANDARD DRAWINGS, 2012
 - 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND DEPARTMENT OF JUSTICE 28 CFR PARTS 35 & 36
 - 2010 CALIFORNIA HISTORIC BUILDING CODE

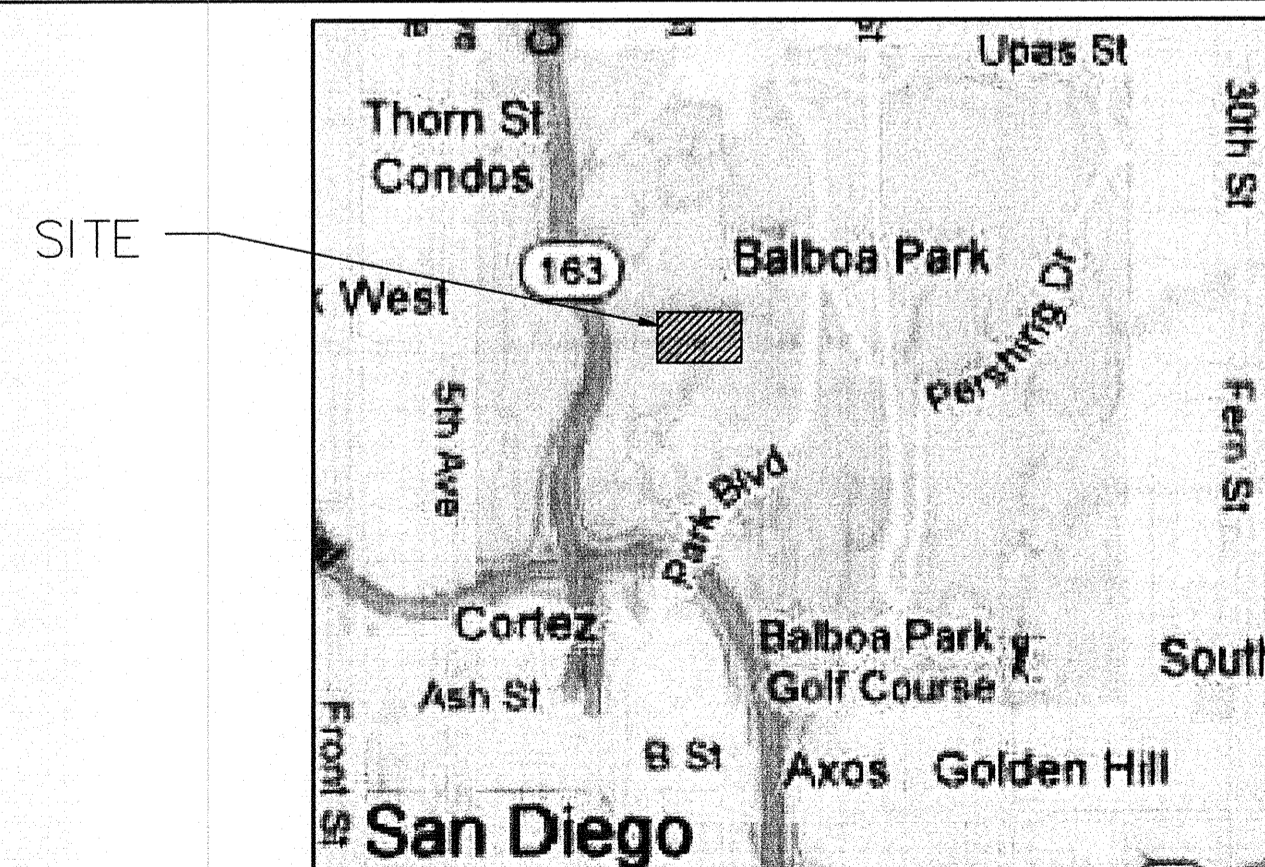
Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

PWA PROJECT #: 0411

BALBOA PARK ADA BARRIER REMOVAL - MUSEUM OF MAN

SHEET TITLE: TITLE SHEET, SHEET INDEX AND DIRECTORY	SHEET NUMBER: G-001			
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 1 OF 11 SHEETS	WBS B-13021			
FOR CITY ENGINEER: <i>Sandra S. Gramley</i> 4/18/14 DATE	ALI DARVISHI SECTION HEAD			
DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	SG/SR	ad	7/18/13	
ADDENDUM A	SG/SR	ad	4/18/14	
COSELYN GOODRICH PROJECT MANAGER				
206-1719				
CCS27 COORDINATE				
6280407-1846444				
CCS83 COORDINATE				
CONTRACTOR	DATE STARTED	37594-01-D		
INSPECTOR	DATE COMPLETED			

VICINITY MAP



CONSTRUCTION CHANGE / ADDENDUM			
CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.
A	4/18/14	1, 4, 10 & 11	

WARNING

0 1

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

CITY OF SAN DIEGO
PUBLIC WORKS PROJECT



CODE ANALYSIS

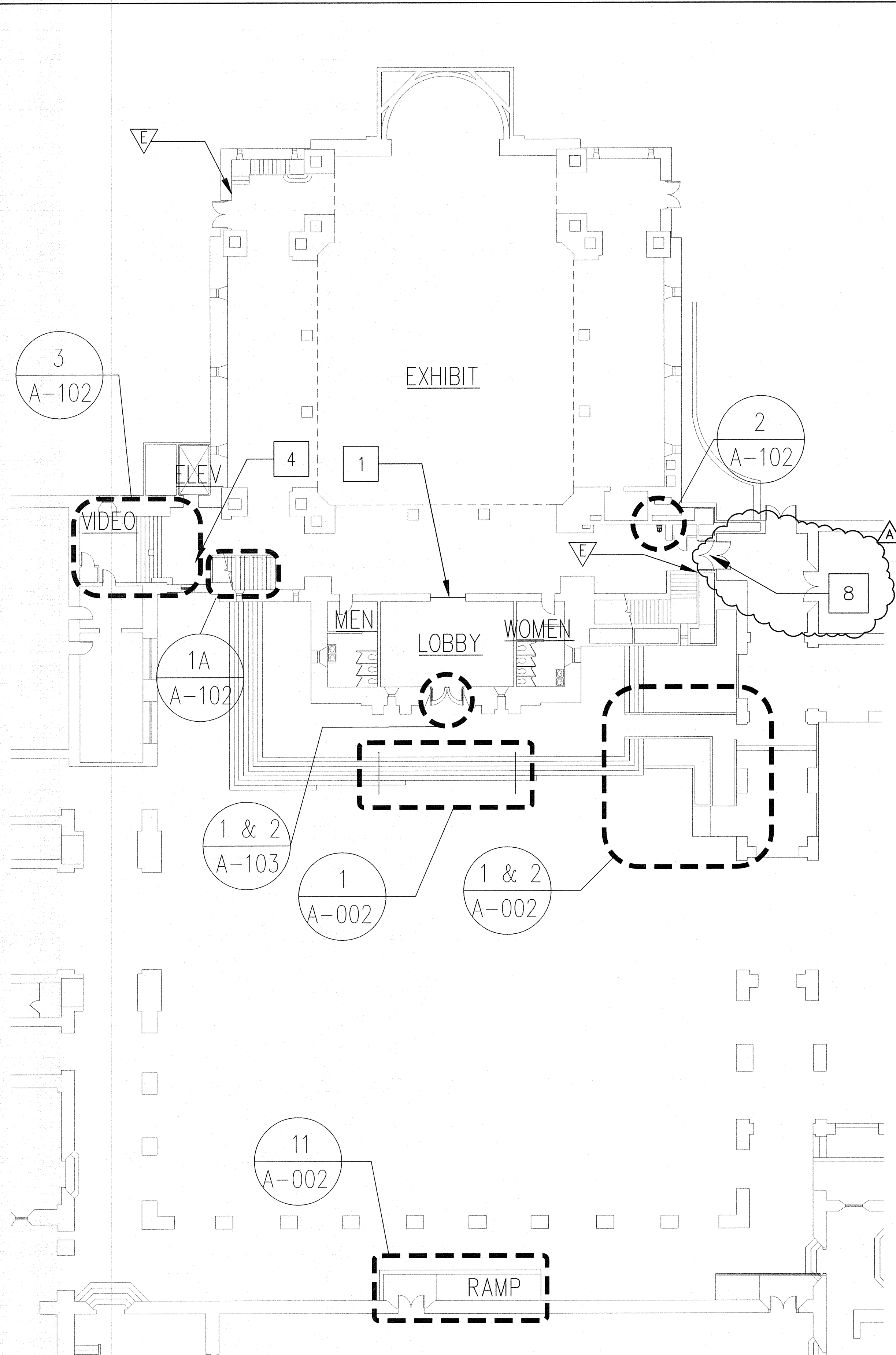
- CODE CLASSIFICATIONS:
- OCCUPANCY TYPE A-3, B, E
 - TYPE OF CONSTRUCTION III-B
 - BUILDING NOT SPRINKLERED

LEGAL DESCRIPTION

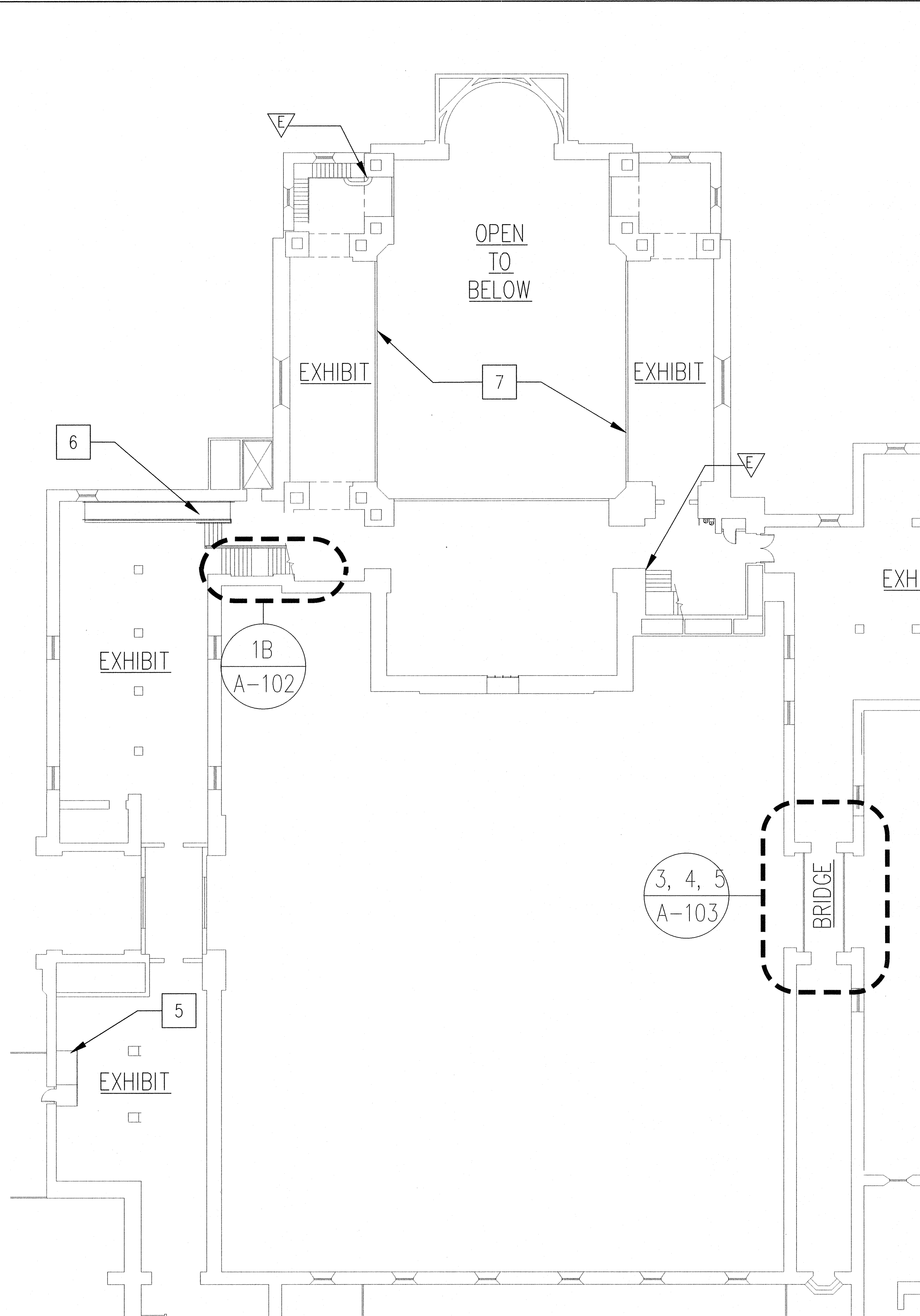
HISTORIC RESOURCES SITE # 1 - APN 534-450-08

BALBOA PARK ADA BARRIER REMOVAL - MUSEUM OF MAN ADDENDUM A

J:\0411 Museum of Man ADA\03-Drawings\Museum of Man ADA\Sheet\A-101.dwg 04/16/2014 15:33



1 FIRST FLOOR OVERALL PLAN
1/32" = 1'-0"



2 SECOND FLOOR OVERALL PLAN
1/32" = 1'-0"

KEYNOTES

- 1 PROVIDE HALF SADDLE THRESHOLD 2" X 1/2" DK BRONZE ANODIZED ALUMINUM, PEMKO 252D OR EQ. TRIM TILE EDGE AND CAULK.
- 2 PROVIDE ADA COMPLIANT RAIL AT (E) RAMP.
- 3 PROVIDE ADA COMPLIANT HANDRAIL AT (E) STAIRS
- 4 PROVIDE CANE DETECTION RAIL AT (E) STAIRS WHERE HEAD CLEARANCE IS LESS THAN 80"
- 5 PROVIDE STEEL TRANSITION BETWEEN RAMP & FLOOR.
- 6 EXISTING RAMP CONFORMS TO ADAAG REQUIREMENTS - NO WORK NEEDED.
- 7 EXISTING HISTORIC GUARD RAIL @ +/-34.5" - COMPLIANT PER HISTORIC CODE CBC-8-504.
- 8 ADJUST OR REPAIR DOOR PANIC HARDWARE TO OPEN WITH NO MORE THAN 5 LBS. PRESSURE

GENERAL NOTES

1. SYMBOL ∇ : PROVIDE COMPLIANT SIGNAGE PER SIGNAGE SCHEDULE ON A-500.
2. ADJUST ALL DOOR CLOSERS TO MAX. 5 LBS. OPENING FORCE

	Platt/Whitelaw Architects, Inc. 4034 30th Street, SAN DIEGO CA 92104 (619) 546-4326 FAX (619) 546-4350	
	PWA PROJECT #: 0411	

BALBOA PARK ADA BARRIER REMOVAL - MUSEUM OF MAN

SHEET TITLE: **FLOOR PLANS** SHEET NUMBER: **A-101**

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS DEPARTMENT
SHEET 4 OF 11 SHEETS

FOR CITY ENGINEER: *[Signature]* DATE: 4/18/14 SECTION HEAD: **ALI DARVISHI**

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/SR		7/18/13	
ADDENDUM Δ	SG/SR	<i>[Signature]</i>	4/18/14	

PROJECT MANAGER: **COSELYN GOODRICH**
 206-1719
 CCS27 COORDINATE: **6280407-1846444**
 CCS83 COORDINATE: **37594-04-D**

CONTRACTOR: _____ DATE STARTED: _____
INSPECTOR: _____ DATE COMPLETED: _____

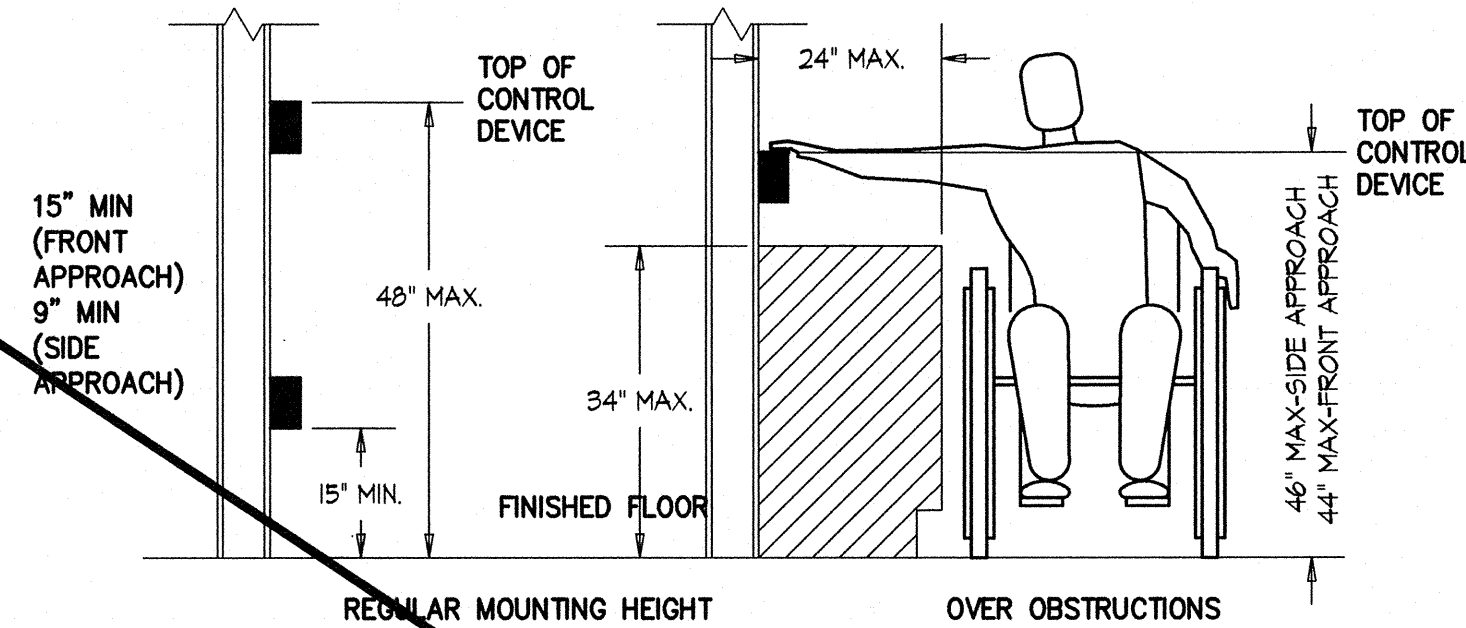
ADDENDUM Δ : ADD KEYNOTE 8

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	DASHED SYMBOL INDICATES EXISTING FIXTURE, OUTLET, DEVICE OR EQUIPMENT TO BE REMOVED.
	FINE-LINED SYMBOL INDICATES EXISTING FIXTURE, OUTLET, DEVICE OR EQUIPMENT TO REMAIN.

ITEM DESCRIPTION	SYMBOL	MOUNTING	MODEL#
EXISTING FIRE ALARM CONTROL PANEL "FACP" - SIMPLEX 4100U EXISTING			SIMPLEX 4100-9111
FIRE ALARM ANNUNCIATOR EXISTING			4009-9261
COMBINATION HORN AND VISUAL DEVICE SEPARATELY CIRCUITED ON FLUSH WALL MOUNTED OUTLET BOXES (75 CANDELA)		+80"	MTWP
VISUAL DEVICE ON FLUSH WALL MOUNTED OUTLET BOX (NUMBER INDICATES 15, 75, 30 OR 110 CANDELA RATING)		+80"	4904-9331 (15cd) 4904-9180 (30cd) 4904-9332 (75cd) 4904-9333 (110cd)
VISUAL DEVICE ON CEILING OUTLET (NUMBER INDICATES 75 CANDELA RATING)		CEILING	4904-9331 (15cd) 4904-9180 (30cd) 4904-9332 (75cd) 4904-9333 (110cd)
MANUAL PULL STATION (INDOOR)		+48"	4099-9001

SUBSTITUTIONS:
WHEN CONTRACTOR CHOOSES TO SUBSTITUTE A DEVICE, COMPONENTS, OR ASSEMBLIES HE SHALL BE FULLY RESPONSIBLE FOR THE FULL COORDINATION OF THE COMPLETED SYSTEM. THIS INCLUDES THE ADDITION OF ANY AND ALL EQUIPMENT MOUNTING, CONDUCTORS, AND RE-ENGINEERING AS NEEDED TO MAKE THE SUBSTITUTED SYSTEM(S) FULLY OPERATIONAL.

NOTE
CONTRACTOR SHALL COORDINATE HORIZONTAL PLACEMENT OF ALL DEVICES AT CASEWORK AREAS WITH ARCHITECTURAL CASEWORK ELEVATION DRAWINGS PRIOR TO ROUGH-IN.



NOTE
WHERE LIGHT SWITCHES, RECEPTACLES, TELEPHONE/DATA OUTLETS, DIMMING CONTROL STATIONS, FIRE ALARM PULL STATIONS OR OTHER OPERABLE OUTLET DEVICES OCCUR OVER FIXED OBSTRUCTIONS (SUCH AS CASEWORK, ETC) RESPECTIVE DEVICE MOUNTING HEIGHT LIMITS AFF SHALL BE AS TYPICALLY DEPICTED ABOVE.

MOUNTING HEIGHT LIMITS OVER OBSTRUCTIONS
NO SCALE

VOID

ABBREVIATIONS LIST

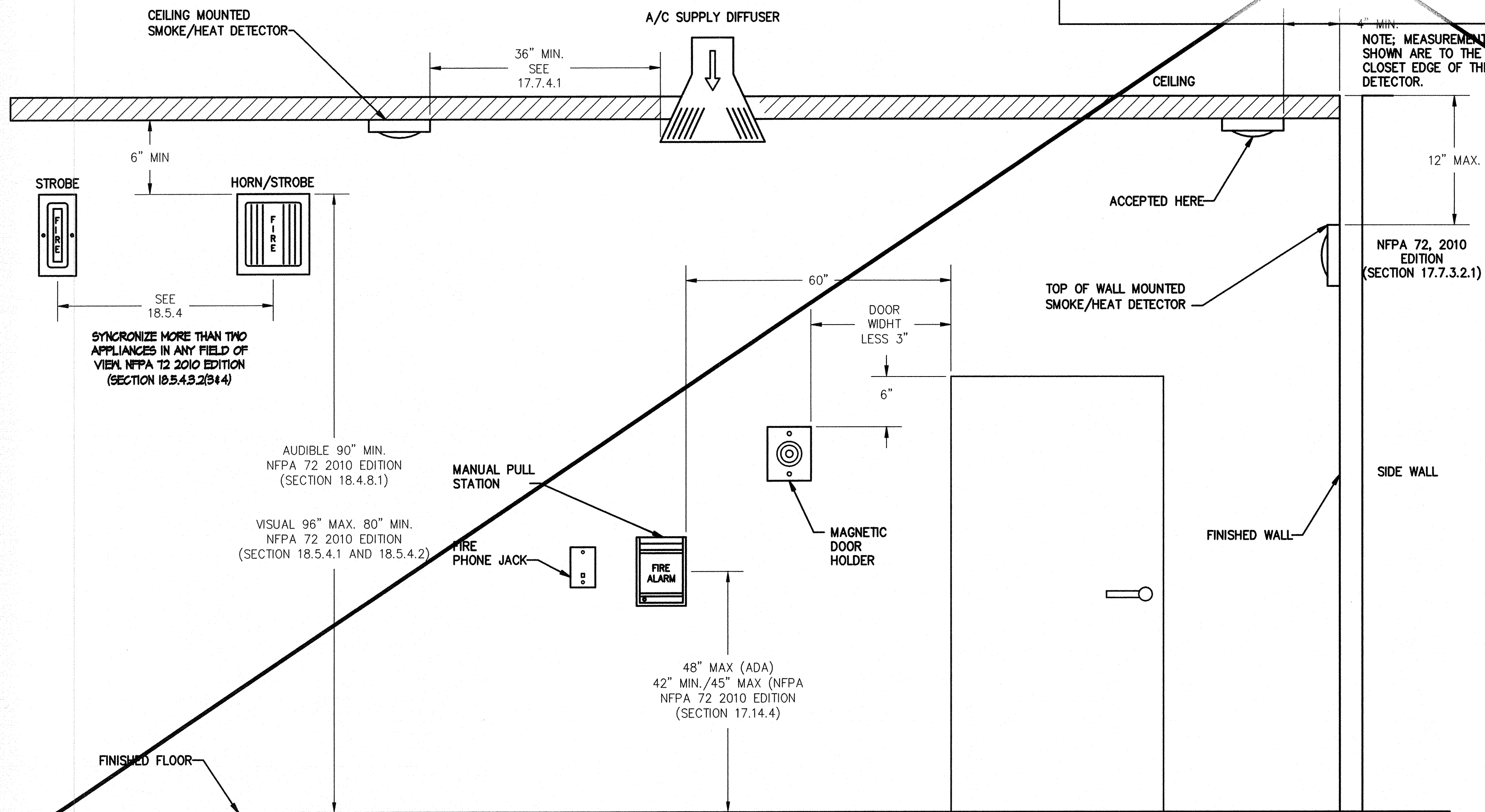
A, AMP	AMPERE
AC	ALTERNATING CURRENT
AF	AMPS FRAME, OR AMPS FUSE RATING
AFG	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPS TRIP RATING
AS	AMPS SWITCH RATING
C	CONDUIT
CEC	CALIFORNIA ELECTRICAL CODE
CIR	CIRCUIT
CMU	CONCRETE MASONRY UNIT
C.O.	CONDUIT ONLY
CU	COPPER
CW	COLD WATER
DWG	DRAWING
EA	EACH
EG	EQUIPMENT GROUND
ELEC	ELECTRICAL
EMERG.	EMERGENCY
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GFI	GROUND-FAULT INTERRUPTER
GND	GROUND
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
JB	JUNCTION BOX
KVA	KILOVOLT AMPS (kva)
KW	KILOWATT (kw)
KWH	KILOWATT-HOUR (kwh)
LPS	LOW PRESSURE SODIUM
LTC	LIGHTING
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
POC	POINT OF CONNECTION
REF	REFERENCE
SCCR	SHORT CIRCUIT CURRENT RATING
SW	SWITCH
SYM	SYMMETRICAL
T, TELE	TELEPHONE
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF

GENERAL NOTES

- ALL WORK SHALL BE IN COMPLIANCE WITH THE 2010 CALIFORNIA ELECTRICAL CODE (CEC) AND WHERE APPLICABLE AS AMENDED BY LOCAL ORDINANCES AND CODES OF GOVERNING MUNICIPALITIES, AND ALL CALIFORNIA AMENDMENTS.
- ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ALL OTHER RELATED CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL CONTRACT DRAWINGS/SPECIFICATIONS AND BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIALS AND EQUIPMENT AT EACH LOCATION AS INDICATED WITHOUT SUBSTANTIAL ALTERATION. IN AS MUCH AS THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. FURNISHING FITTINGS REQUIRED TO MEET SUCH CONDITIONS SHALL BE AT NO COST TO THE OWNER.
- CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
- CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO EQUIPMENT.
- THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS ARE BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS APPROVED BY THE ENGINEER MAY BE MADE BY THE CONTRACTOR AT HIS EXPENSE TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS.
- ALL SURFACE MOUNTED PANELS AND PANELBOARDS SHALL BE MOUNTED TO MAINTAIN A MINIMUM 1/4" AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
- NAMEPLATES SHALL CONFORM STRICTLY TO INSTRUCTIONS AS SPECIFIED IN THE ELECTRICAL SPECIFICATIONS AND ON THE DRAWINGS. THE FOLLOWING SHALL HAVE NAMEPLATES:
 - DISCONNECT SWITCHES.
 - CONTROL CABINETS.
 - ALL CIRCUIT BREAKERS.
- ALL FEEDERS AND BRANCH CIRCUITS SHALL HAVE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR INCLUDED WITH THE PHASE/NEUTRAL CONDUCTORS.
- ALL CIRCUIT PROTECTIVE DEVICES SHALL HAVE THE REQUIRED RATINGS AND INTERRUPTING CAPACITY EQUAL TO OR GREATER THAN THE AVAILABLE SHORT CIRCUIT CURRENT AT ITS SUPPLY TERMINAL. MINIMUM INTERRUPTING CAPACITY SHALL BE 10,000 AMPS.
- OUTLET BOXES, UTILIZATION EQUIPMENT CABINETS, CONDUIT SYSTEMS, AND CONVENIENCE OUTLETS SHALL BE GROUNDED IN ALL ELECTRICAL SYSTEMS OPERATING AT 48 VOLTS AND ABOVE. EACH GROUND WIRE SHALL BE TERMINATED AT THE EQUIPMENT GROUND BAR. GROUND WIRES SHALL BE SIZED PER C.E.C. 250.122.
- ALL CONDUIT ONLY (C.O) SHALL HAVE A 1/8" POLY PULL ROPE CONTAINED WITHIN. LEAVE MINIMUM OF 2'-0" SLACK AT EACH END.
- ALL CONDUITS SHALL BE A MINIMUM OF 3/4", UNLESS SPECIFICALLY STATED OTHERWISE.
- ALL WIRING SHALL BE THHN/THWN STRANDED COPPER, PER SPECIFICATIONS, REGARDLESS OF APPLICATION. NO ALUMINUM WIRING SHALL BE USED.
- FIELD VERIFY EXISTING CONDITIONS AND ADVISE ARCHITECT OF ANY DISCREPANCIES OR DEVIATIONS BETWEEN PLANS AND ACTUAL CONDITIONS PRIOR TO SUBMITTING BID.
- MOUNTING HEIGHTS INDICATED FOR LIGHTING FIXTURES ARE MEASURED TO BOTTOM OF THE FIXTURE ABOVE FINISHED FLOOR.
- ALL WIRING SHALL BE IN CONDUIT. NO TYPE "MC" OR SIMILAR PRE-ASSEMBLED CABLE SHALL BE USED.
- BUILDING WIDE TELEPHONE SYSTEM IS EXISTING. OWNER TO PROVIDE NEW TELEPHONE OUTLETS AND TIE INTO EXISTING SYSTEM, TYPICAL WHERE OCCURS.
- ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY. BRANCH CIRCUITS SHALL NOT SHARE A NEUTRAL.

FIRE ALARM EQUIPMENT SCHEDULE

A
E-001



FIRE ALARM DEVICE ELEVATIONS

NO SCALE

C
E-001

FOR REFERENCE ONLY

DEFERRED SUBMITTALS

THE FIRE ALARM SYSTEM SHALL BE UNDER SEPARATE SUBMITTAL BY THE CONTRACTOR AND SEPARATE PERMIT BY THE CITY.

NOTE:
THIS DEFERRED SUBMITTAL SHALL FIRST BE SUBMITTED TO THE PROJECT ARCHITECT AND/OR ENGINEER FOR REVIEW AND COORDINATION; FOLLOWING THE COMPLETION OF THE PROJECT ARCHITECT/ENGINEER REVIEW AND COORDINATION, A SUBMITTAL TO THE CITY SHALL BE MADE (FOR CITY REVIEW AND APPROVAL) WHICH SHALL INCLUDE A LETTER STATING THIS REVIEW AND COORDINATION HAS BEEN PERFORMED AND COMPLETED AND PLANS AND CALCULATIONS FOR DEFERRED ITEMS ARE FOUND TO BE ACCEPTABLE, WITH NO EXCEPTIONS, PLEASE REFER TO CITY OF SAN DIEGO REQUIREMENTS.

PLANS FOR THE DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT ALLOWS A MINIMUM 30 WORKING DAYS FOR INITIAL PLAN REVIEW. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTAL MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECKER DIVISION PRIOR TO APPROVAL OF THE SUBMITTAL ITEMS. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

TURPIN & RATTAN
ENGINEERING, INC.
CONSULTING ENGINEERS
4719 PALM AVENUE
LA MESA, CA 91941-5221
619 / 466 / 6224 FAX 466 / 6233
E-MAIL: ENGINEER@TRRSD.COM

TR E # 12397.00

7/16/13
CONSULTANT

DALE M. FRANK
REGISTERED PROFESSIONAL ENGINEER
ELECTRICAL
STATE OF CALIFORNIA
No. 11533
exp. 8/30/2014

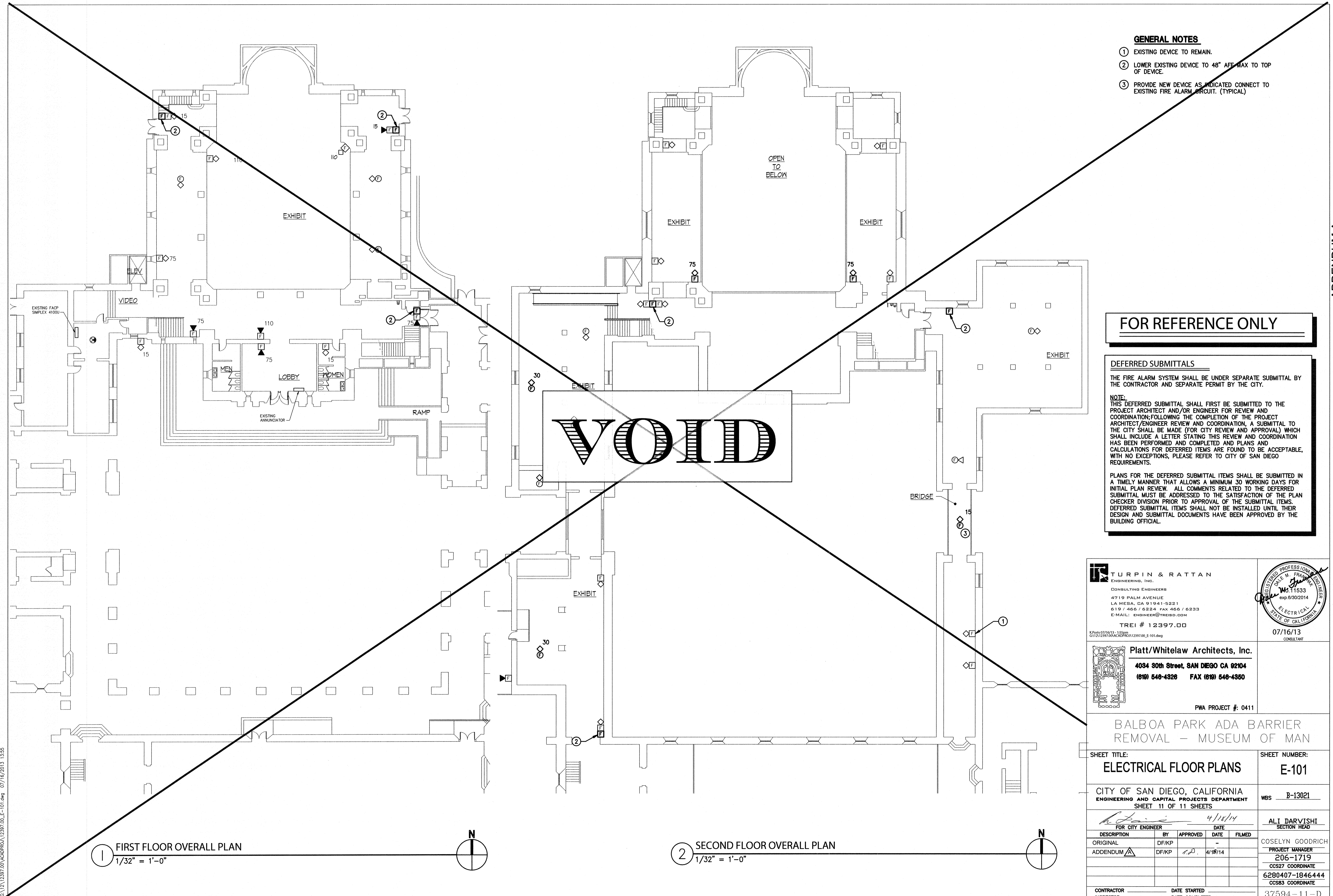
Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4926 FAX (619) 546-4350

PWA PROJECT #: 0411

BALBOA PARK ADA BARRIER REMOVAL - MUSEUM OF MAN

SHEET TITLE: SYMBOL LIST/GENERAL NOTES	SHEET NUMBER: E-001
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 10 OF 11 SHEETS	
 FOR CITY ENGINEER DATE 4/18/14	
ALI DARVISHI SECTION HEAD	
COSELYN GOODRICH PROJECT MANAGER 206-1719 CCS27 COORDINATE 6280407-1846444 CCS83 COORDINATE	
CONTRACTOR _____ DATE STARTED _____ INSPECTOR _____ DATE COMPLETED _____	
37594-10-D	

ADDENDUM DELETE SHEET



- GENERAL NOTES**
- ① EXISTING DEVICE TO REMAIN.
 - ② LOWER EXISTING DEVICE TO 48" AFF. MAX TO TOP OF DEVICE.
 - ③ PROVIDE NEW DEVICE AS INDICATED CONNECT TO EXISTING FIRE ALARM CIRCUIT. (TYPICAL)

FOR REFERENCE ONLY

DEFERRED SUBMITTALS

THE FIRE ALARM SYSTEM SHALL BE UNDER SEPARATE SUBMITTAL BY THE CONTRACTOR AND SEPARATE PERMIT BY THE CITY.

NOTE:
THIS DEFERRED SUBMITTAL SHALL FIRST BE SUBMITTED TO THE PROJECT ARCHITECT AND/OR ENGINEER FOR REVIEW AND COORDINATION. FOLLOWING THE COMPLETION OF THE PROJECT ARCHITECT/ENGINEER REVIEW AND COORDINATION, A SUBMITTAL TO THE CITY SHALL BE MADE (FOR CITY REVIEW AND APPROVAL) WHICH SHALL INCLUDE A LETTER STATING THIS REVIEW AND COORDINATION HAS BEEN PERFORMED AND COMPLETED AND PLANS AND CALCULATIONS FOR DEFERRED ITEMS ARE FOUND TO BE ACCEPTABLE, WITH NO EXCEPTIONS, PLEASE REFER TO CITY OF SAN DIEGO REQUIREMENTS.

PLANS FOR THE DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT ALLOWS A MINIMUM 30 WORKING DAYS FOR INITIAL PLAN REVIEW. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTAL MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECKER DIVISION PRIOR TO APPROVAL OF THE SUBMITTAL ITEMS. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

VOID

<p>TURPIN & RATTAN ENGINEERING, INC. CONSULTING ENGINEERS 4719 PALM AVENUE LA MESA, CA 91941-5221 619 / 466 / 6224 FAX 466 / 6233 E-MAIL: ENGINEER@TRBDO.COM TREI # 12397.00 K:\P\071613 - 15566 G:\1239700\ACAD\PROJ\1239700_E-101.dwg</p>		<p>REGISTERED PROFESSIONAL ENGINEER DALE M. FRANK No. 11533 exp. 6/30/2014 ELECTRICAL STATE OF CALIFORNIA 07/16/13 CONSULTANT</p>															
<p>Platt/Whitelaw Architects, Inc. 4034 30th Street, SAN DIEGO CA 92104 (619) 548-4326 FAX (619) 548-4350 PWA PROJECT #: 0411</p>																	
<p>BALBOA PARK ADA BARRIER REMOVAL - MUSEUM OF MAN</p>																	
<p>SHEET TITLE: ELECTRICAL FLOOR PLANS</p>		<p>SHEET NUMBER: E-101</p>															
<p>CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS DEPARTMENT SHEET 11 OF 11 SHEETS</p>		<p>WBS B-13021</p>															
<p>FOR CITY ENGINEER</p> <table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>BY</th> <th>APPROVED</th> <th>DATE</th> <th>FILED</th> </tr> </thead> <tbody> <tr> <td>ORIGINAL</td> <td>DF/KP</td> <td></td> <td></td> <td></td> </tr> <tr> <td>ADDENDUM </td> <td>DF/KP</td> <td></td> <td>4/18/14</td> <td></td> </tr> </tbody> </table>		DESCRIPTION	BY	APPROVED	DATE	FILED	ORIGINAL	DF/KP				ADDENDUM	DF/KP		4/18/14		<p>ALI DARVISHI SECTION HEAD</p> <p>COSELYN GOODRICH PROJECT MANAGER 206-1719 CCS27 COORDINATE 6280407-1846444 CCS83 COORDINATE 37594-11-D</p>
DESCRIPTION	BY	APPROVED	DATE	FILED													
ORIGINAL	DF/KP																
ADDENDUM	DF/KP		4/18/14														
<p>CONTRACTOR _____ DATE STARTED _____ INSPECTOR _____ DATE COMPLETED _____</p>		<p>ADDENDUM : DELETE SHEET</p>															

① FIRST FLOOR OVERALL PLAN
1/32" = 1'-0"

② SECOND FLOOR OVERALL PLAN
1/32" = 1'-0"

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BALBOA PARK ADA BARRIER REMOVAL - MUSEUM OF MAN - ADDENDUM A

City of San Diego

CITY CONTACT: Damian Singleton, Contract Specialist, Email: dsingleton@sandiego.gov
Phone No. (619) 533-3482 - Fax No. (619) 533-3633



ADDENDUM "B"

FOR

CASA DE BALBOA AND MUSEUM OF MAN ADA BARRIER REMOVAL

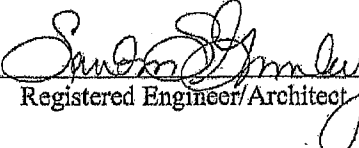
BID NO.: K-14-1199-DBB-3
SAP NO. (WBS/IO/CC): B-13018 / B-13021
CLIENT DEPARTMENT: 1714
COUNCIL DISTRICT: 3
PROJECT TYPE: BT

BID DUE DATE:

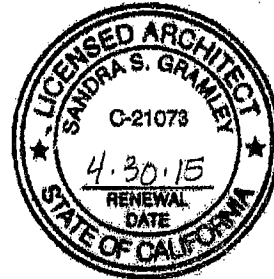
**2:00 PM
MAY 9, 2014
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTING GROUP
1010 SECOND AVENUE, 14th FLOOR, MS 614C
SAN DIEGO, CA 92101**


ENGINEER OF WORK

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


1) Registered Engineer/Architect 4.23.14
Date

Seal:




2) For City Engineer 4-23-14
Date

Seal



A. CHANGES TO CONTRACT DOCUMENTS

The following changes to the Contract Documents are hereby made effective as though originally issued with the bid package. Bidders 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. VOLUME 1

1. To the SUPPLEMENTARY SPECIAL PROVISIONS, Technical Specifications, **ADD** Sections 31000, 311000, 312000, 321313 and 329200, pages 4 through 30 of this Addendum.

James, Nagelvoort, Director
Public Works Department

Dated: *April 24, 2014*
San Diego, California

JN/RT/lis

SECTION 310000 - DEMOLITION AND REMOVAL

PART 1 - GENERAL

1.01 SUMMARY

This Section includes requirements for Demolition and Removal of existing asphalt and concrete pavements, clearing and grubbing, existing trees, and removal of all other existing improvements within the limits of work as indicated on the drawings. This Section also includes the installation of temporary construction fencing.

The engineer makes no representation that the survey information is complete or that it addresses every site condition, which may be significant to the proposed work. The provision of the survey information by the contract documents does not relieve the contractor of the responsibility to carefully examine the site and to take into account any conditions or variance with or in addition to the conditions shown on the survey. The contractor shall notify the owner prior to clearing, grubbing, grading or other ground disturbance if any such conditions or variance exist.

1.02 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

A. Standard Specifications

1. American National Standards Institute (ANSI), ANSI A10.6, Latest Demolition Operations-Safety Requirements.
2. Standard Specifications for Public Works Construction (Latest Edition), including the Latest Regional and Latest County of San Diego Supplemental Amendments.
3. Standard Specifications for Public Works Construction (Latest Edition), including the Latest Regional and Latest City of San Diego Supplemental Amendments.
4. State of California Department of Transportation (Caltrans) Standard Specifications, Latest Edition.
5. State of California Department of Transportation (Caltrans) "Manual of Traffic Control for Construction and Maintenance Works Zones" (Latest Edition).

B. Standard Drawings

1. San Diego Regional Standard Drawings, as last amended, shall apply to the work to the extent referenced on the drawings.
2. City of San Diego Standard Drawings, as last amended, shall apply to the work to the extent referenced on the drawings.
3. State of California Department of Transportation (Caltrans) Standard Plans, Latest Edition.
4. Standard Plans for Public Works Construction, as last amended, prepared by Southern California Chapter of the American Public Works Association.

C. Geotechnical Report: A Geotechnical Report has not been prepared for this project.

1.03 SITE INSPECTION AND LOCATION OF EXISTING ON-SITE UTILITIES:

- A. Prior to all work of this Section, carefully inspect the entire site and all existing items to be demolished and removed or to be left intact, and determine an orderly sequence for the performance of this work. Exact locations and alignment of existing buried utility lines are not known. Locate all existing utility lines and determine the requirements for disconnection and capping. Locate all active utilities traversing the area of work to be retained and determine the requirements for protection.
- B. Locate all overhead utilities and powerlines and determine height restrictions. Do not operate equipment in the vicinity of overhead utilities and powerlines, which may create a safety hazard.

1.04 PROTECTION

- A. The contractor shall notify UNDERGROUND SERVICE ALERT (USA) at 1-800-227-2600 at least two days prior to starting work and shall coordinate all work with utility company representatives. The existence and locations of existing underground facilities shown on the drawings were obtained from a search of available records. The contractor shall take precautionary measures to protect any existing facility shown on the drawings, and any other which is not of record or not shown on the drawings. The Contractor shall determine the exact location of all existing utilities before commencing the work, and shall be fully responsible for any and all damages, which might be occasioned by the Contractor's failure to exactly locate and preserve any and all underground utilities.
- B. Dewatering: Provide for the disposal of surface and subsurface water, which may accumulate in open excavations, unfinished fills, or other low areas. Remove water by trenching where approved, pumping, or other methods to prevent softening of exposed surfaces. Contractor is responsible for obtaining and paying

for any permits for dewatering through all jurisdictional agencies, including the local Regional Water Quality Control Board. Surface dewatering plan shall include the rerouting of any storm water runoff or natural drainage, if necessary, and shall comply with requirements of the City and the California State Water Resources Control Board. Construction water from dewatering or any other construction source shall not be allowed to discharge untreated to the public right-of-way, public or private storm drain systems, creeks/streams/lakes/ponds, other surface waters, flood control facilities, or onto adjacent properties. California Storm Water Best Management Practices and the guidance provisions set forth in the City of San Diego Storm Water Pollution Prevention guidelines shall be complied with for all phases of the work.

- C. Protection and Restoration of Surface: Protect newly graded areas from traffic, erosion, and settlements. Repair and reestablish damaged or eroded slopes, elevations or grades and restore surface construction prior to acceptance. Provide appropriate erosion control and sediment control measures to prevent water-borne soil from leaving the site. The Storm Water Pollution Prevention Plan preparation will be the responsibility of the contractor which will provide erosion and sedimentation control guidance to the contractor and its subs; however, the contractor shall be responsible to use the most appropriate Best Management Practices as necessary to ensure pollution and/or illegal discharges of storm water and non-storm water do not occur from the site. The contractor shall be responsible to clean up any soil deposited in the public right-of-way, public or private storm drain systems, creeks/streams/lakes/ponds and other surface waters, flood control facilities, or on adjacent properties. The contractor shall be responsible to protect storm drain catch basins and to prevent sediment from entering the public or private storm drain system during construction.

1.05 RELATED WORK IN OTHER SECTIONS

- A. Section 311000, "Site Clearing"
- B. Section 312000, "Earth Moving".

1.06 SAFETY DURING CONSTRUCTION

The Contractor shall assume sole and complete responsibility for job site conditions during the course of construction of the project, including safety of all persons and property. This requirement shall be made to apply continuously and not be limited to normal working hours. Refer to General Provisions for additional requirements.

PART 2 - PRODUCTS

2.01 TEMPORARY CONSTRUCTION FENCING

Comply with the requirements of Section 206-6 of the Standard Specifications. **Fence height shall be 6', with appropriate access gates, which shall be lockable.**

PART 3 - EXECUTION

3.01 GENERAL

- A. Perform all demolition and removal in accordance with Section 300-1.3 of the Standard Specifications, and as described in this Section.
- B. Protect all facilities to remain.
- C. Comply with Federal, State, and local hauling and disposal regulations.
- D. Coordinate demolition and removal operations with the requirements of Section 311000, Section 312000.
- E. Coordinate demolition and removal operations for on-site work with demolition and removal required for construction of improvements. Comply with all traffic control requirements required by the Owner and the City of San Diego for construction traffic.
- F. Prevent the spread of dust and debris, and avoid the creation of a nuisance or hazard in the surrounding area.
- G. Provide weather protection during the construction period to prevent erosion of the site or deposition of sediment onto adjacent property.
- H. Noise shall be kept at a reasonable level (in the opinion of Owner) as related to specific items of equipment used, and their hours of use. This does not preclude the use of mechanical equipment, i.e., jackhammers, etc.
- I. Provide temporary construction fencing, in accordance with Section 206-6 of the Standard Specifications. Exact location of temporary construction fencing shall be approved by the Owner prior to construction.

END OF SECTION 310000

SECTION 311000 - SITE CLEARING

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Clearing and Grubbing.
 2. Removing below-grade site improvements.
 3. Temporary erosion- and sedimentation-control measures.

1.2 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

- A. Standard Specifications
1. American National Standards Institute (ANSI), ANSI A10.6, Latest Demolition Operations-Safety Requirements.
 2. Standard Specifications for Public Works Construction (Latest Edition), including the Latest Regional and Latest County of San Diego Supplemental Amendments.
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4. Standard Plans for Public Works Construction, as last amended, prepared by Southern California Chapter of the American Public Works Association.

C. Geotechnical Report

A Geotechnical Report has not been prepared for this project.

1.4 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated on plans.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- E. The following practices are prohibited within protection zones:
1. Storage of construction materials, debris, or excavated material.
 2. Parking vehicles or equipment.
 3. Foot traffic.
 4. Erection of sheds or structures.
 5. Impoundment of water.

6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Division 31 Section "Earth Moving."
 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated.
- C. Protect existing site improvements to remain from damage during construction.
 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 TREE AND PLANT PROTECTION

- A. General: Protect trees and plants remaining on-site.
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Resident Engineer.

3.3 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - a. Grind down stumps and remove roots, obstructions, and debris to a depth of 18 inches below exposed subgrade.
 - b. Use only hand methods for grubbing within protection zones.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - a. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.4 SITE IMPROVEMENTS

- A. Remove existing below-grade improvements as indicated and necessary to facilitate new construction.

3.5 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparing subgrades for slabs-on-grade, walks, and pavements.
2. Subbase course for concrete walks, pavements.
3. Excavating and backfilling for utility trenches.

1.2 REFERENCES

A. Standard Specifications

1. American National Standards Institute (ANSI), ANSI A10.6, Latest Demolition Operations-Safety Requirements.
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3. Standard Specifications for Public Works Construction (Latest Edition), including the Latest Regional and Latest City of San Diego Supplemental Amendments.
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C. Geotechnical Report

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1.3 DEFINITIONS

- A. Backfill: Soil material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- C. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Resident Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 - 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Resident Engineer. Unauthorized excavation, as well as remedial work directed by Resident Engineer, shall be without additional compensation.
- E. Fill: Soil materials used to raise existing grades.
- F. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- G. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

1.4 QUALITY ASSURANCE

- A. Preexcavation Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

- A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.

- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored to comply with local practice or requirements of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.4 SUBGRADE INSPECTION

- A. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Resident Engineer, without additional compensation.

3.5 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Resident Engineer.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Resident Engineer.

3.6 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.7 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, use engineered fill.
 - 5. Under footings and foundations, use engineered fill.

3.8 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.9 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
 - 2. Under walkways, scarify and recompact top 12 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 - 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
 - 4. For utility trenches, compact each layer of initial and final backfill soil material at 85percent.

3.10 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 - 2. Walks: Plus or minus 1 inch.
 - 3. Pavements: Plus or minus 1/2 inch.

3.11 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.

- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
 - 1. Shape subbase course and base course to required crown elevations and cross-slope grades.
 - 2. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
 - 3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than **95** percent of maximum dry unit weight according to ASTM D 1557.

3.12 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.13 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Walks.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For each exposed product and for each color and texture specified.

C. Other Action Submittals:

1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.3 REFERENCES

A. Standard Specifications

1. American National Standards Institute (ANSI), ANSI A10.6, Latest Demolition Operations-Safety Requirements.
2. Standard Specifications for Public Works Construction (Latest Edition), including the Latest Regional and Latest County of San Diego Supplemental Amendments.
3. Standard Specifications for Public Works Construction (Latest Edition), including the Latest Regional and Latest City of San Diego Supplemental Amendments.
4. State of California Department of Transportation (Caltrans) Standard Specifications, Latest Edition.
5. State of California Department of Transportation (Caltrans) "Manual of Traffic Control for Construction and Maintenance Works Zones" (Latest Edition).

B. Standard Drawings

1. San Diego Regional Standard Drawings, as last amended, shall apply to the work to the extent referenced on the drawings.

2. City of San Diego Standard Drawings, as last amended, shall apply to the work to the extent referenced on the drawings.
 3. State of California Department of Transportation (Caltrans) Standard Plans, Latest Edition.
 4. Standard Plans for Public Works Construction, as last amended, prepared by Southern California Chapter of the American Public Works Association.
- C. Geotechnical Report
- A Geotechnical Report has not been prepared for this project.

1.4 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. ACI Publications: Comply with ACI 301 unless otherwise indicated.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Recycled Content: Provide steel reinforcement with an average recycled content of steel so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.
- B. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, fabricated from as-drawn steel wire into flat sheets.
- C. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.
- D. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.
- E. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.
- F. Deformed-Steel Wire: ASTM A 496/A 496M.
- G. Dowel Bars: ASTM A 615/A 615M, Grade 60 plain-steel bars; zinc coated (galvanized) after fabrication according to ASTM A 767/A 767M, Class I coating. Cut bars true to length with ends square and free of burrs.
- H. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified.

2.2 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
 - 1. Portland Cement: ASTM C 150, gray portland cement Type II. Supplement with the following:
 - a. Fly Ash: ASTM C 618, Class F.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded. Provide aggregates from a single source.
- C. Water: Potable and complying with ASTM C 94/C 94M.
- D. Air-Entraining Admixture: ASTM C 260.
- E. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

2.3 RELATED MATERIALS

- A. Joint Fillers: ASTM D 1752, cork or self-expanding cork in preformed strips.
- B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.

2.4 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301, with the following properties:
 - 1. Compressive Strength (28 Days): 3000 psi.
 - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
 - 3. Slump Limit: 4 inches, plus or minus 1 inch.
 - 4. Air Content: 5-1/2 percent plus or minus 1.5 percent.
- B. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

- C. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd.
- D. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions.

2.5 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
- B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness to match jointing of existing adjacent concrete paving:
- E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

- A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
- B. Comply with ACI 301 requirements for measuring, mixing, transporting, placing, and consolidating concrete.
- C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- D. Screed paving surface with a straightedge and strike off.
- E. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.6 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
Initial floating operation is included in "Concrete Placement" Article.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.

2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
 3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.
- C. Slip-Resistive Aggregate Finish: Before final floating, spread slip-resistive aggregate finish on paving surface according to manufacturer's written instructions.
1. Cure concrete with curing compound recommended by slip-resistive aggregate manufacturer. Apply curing compound immediately after final finishing.
 2. After curing, lightly work surface with a steel wire brush or abrasive stone and water to expose nonslip aggregate.

3.7 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound or a combination of these.

3.8 PAVING TOLERANCES

- A. Comply with tolerances in ACI 117 and as follows:

ACI 117 establishes few paving tolerances; those in subparagraphs below are based on ACI 330.1.

1. Elevation: 3/4 inch.
2. Thickness: Plus 3/8 inch, minus 1/4 inch.

3. Surface: Gap below 10-foot- long, unlevelled straightedge not to exceed 1/2 inch.
4. Joint Spacing: 3 inches.
5. Contraction Joint Depth: Plus 1/4 inch, no minus.
6. Joint Width: Plus 1/8 inch, no minus.

3.9 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Resident Engineer.
- B. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- C. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 321313

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Sodding.
 - 2. Turf renovation.

1.2 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf establishment.
 - 1. Experience: Three years' experience in turf installation.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 - 3. Accompany each delivery of bulk materials with appropriate certificates.

1.4 FIELD CONDITIONS

- A. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 TURFGRASS SOD

- A. Turfgrass Sod: Certified, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

- B. Turfgrass Species: Provide Turf Sod acceptable to the City of San Diego Park and Rec Department. Furnish Tifway Bermuda; or Tifway II Bermuda, or GN-1 Bermuda. Hybrid Bermuda sods that do not contain perennial rye shall be over seeded with **“Grand Slam” or ‘Turfstar’ Perennial Rye, at a rate of 5 lbs./1,000 square feet..**

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 3. Uniformly moisten excessively dry soil that is not workable or which is dusty.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Resident Engineer and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
 - 1. Protect grade stakes set by others until directed to remove them.

- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

- A. General: Prepare planting area for soil placement and mix planting soil according to generally accepted practices.
- B. Placing Planting Soil: Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- D. Before planting, obtain Resident Engineer's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 SODDING

- A. Lay sod within 24 hours of harvesting unless a suitable preservation method is accepted by Resident Engineer prior to delivery time. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - 1. Lay sod across slopes exceeding 1:3.
- C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.5 TURF RENOVATION

- A. Renovate existing turf where removed or damaged by construction activities.
- B. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
 - 1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
 - 2. Install new planting soil as required.

- C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- D. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.
- E. Mow, dethatch, core aerate, and rake existing turf.
- F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
- H. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches.
- I. Apply initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.
 - 1. Initial Fertilizer: Commercial fertilizer applied according to manufacturer's recommendations.
- J. Apply sod as required for new turf.
- K. Water newly planted areas and keep moist until new turf is established.

3.6 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 - 2. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
 - 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.

2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height: ½” to 1”.

3.7 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Resident Engineer:
1. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.8 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
- C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- D. Remove nondegradable erosion-control measures after grass establishment period.

3.9 MAINTENANCE SERVICE

- A. Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:
1. Sodded Turf: 90 days from date of Substantial Completion.

END OF SECTION 329200

City of San Diego

CONTRACTOR'S NAME: Atlas Development
ADDRESS: 991C Lomas Santa Fe Dr #115 Solana Beach 92075
TELEPHONE NO.: 619-200-0902 FAX NO.: 858-350-9337
CITY CONTACT: Damian Singleton, Contract Specialist, Email: dsingleton@sandiego.gov
Phone No. (619) 533-3482, Fax No. (619) 533-3633
YHanna / RTaleghani / ls

CONTRACT DOCUMENTS



FOR

CASA DE BALBOA AND MUSEUM OF MAN ADA BARRIER REMOVAL

VOLUME 2 OF 2

BID NO.: K-14-1199-DBB-3
SAP NO. (WBS/IO/CC): B-13018, B-13021
CLIENT DEPARTMENT: 1714
COUNCIL DISTRICT: 3
PROJECT TYPE: BT

THIS CONTRACT IS SUBJECT TO THE FOLLOWING:

- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.
- BID DISCOUNT PROGRAM (The WHITEBOOK, SLBE-ELBE Program Requirements, Section IV(2))
- PREVAILING WAGE RATES: STATE FEDERAL

THIS BIDDING DOCUMENT TO BE SUBMITTED IN ITS ENTIRETY
REFER TO VOLUME 1 COVER PAGE FOR TIME, DATE, AND LOCATION

TABLE OF CONTENTS

DESCRIPTION

PAGE NUMBER

Volume 2 - Bidding Documents

The following forms must be completed in their entirety and submitted with the Bid. Include the form(s) even if the information does not apply. Where the information does not apply write in N/A. Failure to include any of the forms may cause the Bid to be deemed **non-responsive**. If you are uncertain or have any questions about any required information, contact the City no later than 14 days prior to Bid due date.

- 1. Bid/Proposal..... 3
- 2. Bid Bond..... 6
- 3. Non-Collusion Affidavit to be executed by Bidder and Submitted with Bid under 23 USC 112 and PCC 7106 7
- 4. Contractors Certification of Pending Actions 8
- 5. Equal Benefits Ordinance Certification of Compliance..... 9
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BIDDING DOCUMENTS

PROPOSAL

Bidder's General Information

To the City of San Diego:

Pursuant to "Notice Inviting Bids", 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 bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, 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 bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid 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, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

The undersigned bidder(s) further warrants that bidder(s) has thoroughly examined and understands the entire Contract Documents (plans and specifications) and the Bidding Documents therefore, and that by submitting said Bidding Documents as its bid proposal, bidder(s) acknowledges and is bound by the entire Contract Documents, including any addenda issued thereto, as such Contract Documents incorporated by reference in the Bidding 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 _____

BIDDING DOCUMENTS

(2) Name of each member of partnership, indicate character of each partner, general or special (limited):

(3) Signature (Note: Signature must be made by a general partner)

Full Name and Character of partner

(4) Place of Business (Street & Number) _____

(5) City and State _____ Zip Code _____

(6) Telephone No. _____ Facsimile No. _____

(7) Email Address _____

IF A CORPORATION, SIGN HERE:

(1) Name under which business is conducted Atlas Development

(2) Signature, with official title of officer authorized to sign for the corporation:

M. Atefi
(Signature)

Mark Atefi
(Printed Name)

President
(Title of Officer)

(Impress Corporate Seal Here)

(3) Incorporated under the laws of the State of California

(4) Place of Business (Street & Number) 991C Lomas Santa Fe Dr #115

(5) City and State Solana Beach CA Zip Code 92075

(6) Telephone No. 619-200-0902 Facsimile No. 858-350-9337

(7) Email Address mark.atefi@atlas-corp.net

BIDDING DOCUMENTS

THE FOLLOWING SECTIONS MUST BE FILLED IN BY ALL PROPOSERS:

In accordance with the "NOTICE INVITING BIDS", the bidder holds a California State Contractor's license for the following classification(s) to perform the work described in these specifications:

LICENSE CLASSIFICATION A & B

LICENSE NO. 858038 EXPIRES 4-30-15

This license classification must also be shown on the front of the bid envelope. Failure to show license classification on the bid envelope may cause return of the bid unopened.

TAX IDENTIFICATION NUMBER (TIN): 33-0919577

Email Address: mark.atefi@atlas-corp.net

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 [Handwritten Signature] Title Vic President

SUBSCRIBED AND SWORN TO BEFORE ME, THIS 9th DAY OF May, 2014

Notary Public in and for the County of San Diego, State of California

[Handwritten Signature]
(NOTARIAL SEAL)



BIDDING DOCUMENTS

BID BOND

KNOW ALL MEN BY THESE PRESENTS,

That Atlas Development Corporation as Principal, and Great American Insurance Company as Surety, are held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of **10% OF THE TOTAL BID AMOUNT** for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under the bidding schedule(s) of the OWNER's Contract Documents entitled

Casa De Balboa and Museum of Man ADA Barrier Removal; Project No. K-14-1199-DBB-3

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this 7th day of May, 2014

Atlas Development Corporation (SEAL)
(Principal)

Great American Insurance Company (SEAL)
(Surety)

By: M. Star
(Signature)

By: Tara Bacon
(Signature)

Tara Bacon, Attorney-in-Fact

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

ACKNOWLEDGMENT

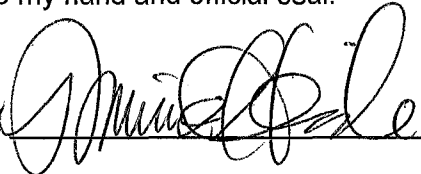
State of California
County of San Diego)

On May 7, 2014 before me, Minna Huovila, Notary Public
(insert name and title of the officer)

personally appeared Tara Bacon,
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  (Seal)



GREAT AMERICAN INSURANCE COMPANY®

Administrative Office: 301 E 4TH STREET • CINCINNATI, OHIO 45202 • 513-369-5000 • FAX 513-723-2740

The number of persons authorized by this power of attorney is not more than FIVE

No. 0 14839

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the GREAT AMERICAN INSURANCE COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Ohio, does hereby nominate, constitute and appoint the person or persons named below, each individually if more than one is named, its true and lawful attorney-in-fact, for it and in its name, place and stead to execute on behalf of the said Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; provided that the liability of the said Company on any such bond, undertaking or contract of suretyship executed under this authority shall not exceed the limit stated below.

Name	Address	Limit of Power
DALE G. HARSHAW	KYLE KING	ALL OF
GEOFFREY SHELTON	JOHN R. QUALIN	SAN DIEGO,
TARA BACON	CALIFORNIA	\$75,000,000.00

This Power of Attorney revokes all previous powers issued on behalf of the attorney(s)-in-fact named above.

IN WITNESS WHEREOF the GREAT AMERICAN INSURANCE COMPANY has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 22ND day of APRIL, 2013
Attest GREAT AMERICAN INSURANCE COMPANY



[Signature]
Assistant Secretary

[Signature]
Divisional Senior Vice President

DAVID C. KITCHIN (877-377-2405)

STATE OF OHIO, COUNTY OF HAMILTON - ss:

On this 22ND day of APRIL, 2013, before me personally appeared DAVID C. KITCHIN, to me known, being duly sworn, deposes and says that he resides in Cincinnati, Ohio, that he is a Divisional Senior Vice President of the Bond Division of Great American Insurance Company, the Company described in and which executed the above instrument; that he knows the seal of the said Company; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by authority of his office under the By-Laws of said Company, and that he signed his name thereto by like authority.



KAREN L. GROSHEIM
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 02-20-16

[Signature]

This Power of Attorney is granted by authority of the following resolutions adopted by the Board of Directors of Great American Insurance Company by unanimous written consent dated June 9, 2008.

RESOLVED: That the Divisional President, the several Divisional Senior Vice Presidents, Divisional Vice Presidents and Divisional Assistant Vice Presidents, or any one of them, be and hereby is authorized, from time to time, to appoint one or more Attorneys-in-Fact to execute on behalf of the Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; to prescribe their respective duties and the respective limits of their authority; and to revoke any such appointment at any time.

RESOLVED FURTHER: That the Company seal and the signature of any of the aforesaid officers and any Secretary or Assistant Secretary of the Company may be affixed by facsimile to any power of attorney or certificate of either given for the execution of any bond, undertaking, contract of suretyship, or other written obligation in the nature thereof, such signature and seal when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

CERTIFICATION

I, STEPHEN C. BERAHA, Assistant Secretary of Great American Insurance Company, do hereby certify that the foregoing Power of Attorney and the Resolutions of the Board of Directors of June 9, 2008 have not been revoked and are now in full force and effect.

Signed and sealed this 7th day of May, 2014



[Signature]
Assistant Secretary

BIDDING DOCUMENTS

**NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND
SUBMITTED WITH BID UNDER 23 UNITED STATES CODE 112 AND
PUBLIC CONTRACT CODE 7106**

State of California)

) ss.

County of San Diego)

Zohreh Sadatrafiei, being first duly sworn, deposes and says that he or she is V. President of the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, 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 bid are true; and further, that the bidder has not, directly or indirectly, submitted his or her bid 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, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signed: _____

Title: Vice President

Subscribed and sworn to before me this 9th day of May, 2014

Notary Public

(SEAL)



BIDDING DOCUMENTS

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: Atlas Development

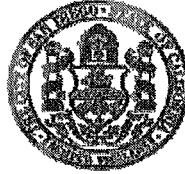
Certified By Mark Atefi Name Title President

M Atefi Signature Date 5/8/14

USE ADDITIONAL FORMS AS NECESSARY

BIDDING DOCUMENTS

**EQUAL BENEFITS ORDINANCE
CERTIFICATION OF COMPLIANCE**



For additional information, contact:
CITY OF SAN DIEGO
EQUAL BENEFITS PROGRAM
 202 C Street, MS 9A, San Diego, CA 92101
 Phone (619) 533-3948 Fax (619) 533-3220

COMPANY INFORMATION

Company Name: <u>Atlas Development</u>	Contact Name: <u>Mark Atefi</u>
Company Address: <u>991C Lomas Santa Fe Dr #115</u>	Contact Phone: <u>619-200-0902</u>
<u>Solana Beach CA 92075</u>	Contact Email: <u>mark.atefi@atlas-corp.net</u>

CONTRACT INFORMATION

Contract Title: <u>Casa the Balboa and Museum of man ADA Barrier R.</u>	Start Date:
Contract Number (if no number, state location): <u>K-14-1199-DBB-3</u>	End Date:

SUMMARY OF EQUAL BENEFITS ORDINANCE REQUIREMENTS

The Equal Benefits Ordinance [EBO] requires the City to enter into contracts only with contractors who certify they will provide and maintain equal benefits as defined in SDMC §22.4302 for the duration of the contract. To comply:

- Contractor shall offer equal benefits to employees with spouses and employees with domestic partners.
 - Benefits include health, dental, vision insurance; pension/401(k) plans; bereavement, family, parental leave; discounts, child care; travel/relocation expenses; employee assistance programs; credit union membership; or any other benefit.
 - Any benefit not offer an employee with a spouse, is not required to be offered to an employee with a domestic partner.
- Contractor shall post notice of firm's equal benefits policy in the workplace and notify employees at time of hire and during open enrollment periods.
- Contractor shall allow City access to records, when requested, to confirm compliance with EBO requirements.
- Contractor shall submit *EBO Certification of Compliance*, signed under penalty of perjury, prior to award of contract.

NOTE: This summary is provided for convenience. Full text of the EBO and Rules Implementing the EBO are available at www.sandiego.gov/administration.

CONTRACTOR EQUAL BENEFITS ORDINANCE CERTIFICATION

Please indicate your firm's compliance status with the EBO. The City may request supporting documentation.

- I affirm **compliance** with the EBO because my firm (*contractor must select one reason*):
- Provides equal benefits to spouses and domestic partners.
 - Provides no benefits to spouses or domestic partners.
 - Has no employees.
 - Has collective bargaining agreement(s) in place prior to January 1, 2011, that has not been renewed or expired.
- I request the City's approval to pay affected employees a cash equivalent in lieu of equal benefits and verify my firm made a reasonable effort but is not able to provide equal benefits upon contract award. I agree to notify employees of the availability of a cash equivalent for benefits available to spouses but not domestic partners and to continue to make every reasonable effort to extend all available benefits to domestic partners.

It is unlawful for any contractor to knowingly submit any false information to the City regarding equal benefits or cash equivalent associated with the execution, award, amendment, or administration of any contract. [San Diego Municipal Code §22.4307(a)]

Under penalty of perjury under laws of the State of California, I certify the above information is true and correct. I further certify that my firm understands the requirements of the Equal Benefits Ordinance and will provide and maintain equal benefits for the duration of the contract or pay a cash equivalent if authorized by the City.

<u>Mark Atefi / Pres.</u>	<u>M. St.</u>	<u>5/8/14</u>
Name/Title of Signatory	Signature	Date

FOR OFFICIAL CITY USE ONLY

Receipt Date:	EBO Analyst:	<input type="checkbox"/> Approved	<input type="checkbox"/> Not Approved – Reason:
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(Rev 02/15/2011)

BIDDING DOCUMENTS

PROPOSAL (BID)

The Bidder agrees to the construction of **Casa De Balboa and Museum of Man ADA Barrier Removal Project**, for the City of San Diego, in accordance with these contract documents for the prices listed below. The Bidder guarantees the Contract Price for a period of 120 days (90 days for federally funded contracts and contracts valued at \$500,000 or less) from the date of Bid opening to Award of the Contract. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent e.g., bond and insurance.

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
BASE BID							
1	1	LS	524126	2-4.1	Bond Payment & Performance	 	\$ 14,000.00
2	1	AL	236220	7-5.3	Building Permits –Type I allowance	 	\$6,000.00
3	1	LS	236220	9-3.1	Construction of Casa De Balboa ADA Barrier Removal	 	\$423,700.00
4	1	LS	236220	9-3.1	Construction of Museum of Man ADA Barrier Removal	 	\$120,000.00 ²⁸⁻ \$120,000.00
5	1	AL		9-3.5	Field Orders – Type II	 	\$24,000.00
6	1	LS	541330	701-13.9.5	Water Pollution Control Program Development	 	\$ 1000.00
7	1	LS	237990	701-13.9.5	Water Pollution Control Program Implementation	 	\$ 1000.00
ESTIMATED TOTAL BASE BID:							\$589,700.00

TOTAL BID PRICE FOR BID (Items 1 through 7 inclusive) amount written in words:

five hundred eighty nine thousand seven hundred dollars & 0/100

BIDDING DOCUMENTS

The Bid shall contain an acknowledgment of receipt of all addenda, the numbers of which shall be filled in on the Bid form. If an addendum or addenda has been issued by the City and not noted as being received by the Bidder, this proposal shall be rejected as being **non-responsive**. The following addenda have been received and are acknowledged in this bid: A & B

The names of all persons interested in the foregoing proposal as principals are as follows:

Mark Atefi
Zohreh Sadatrafiei

IMPORTANT NOTICE: If Bidder 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 Bidder or other interested person is an individual, state first and last names in full.

Bidder: Mark Atefi
Title: President
Business Address: 991C Lomas Santa Fe Dr # 115 Solana Beach CA 92075
Place of Business: Solana Beach
Place of Residence: San Diego
Signature: M Atefi

BIDDING DOCUMENTS

NOTES:

- A. The City shall determine the low Bid based on the Base Bid alone:
- B. Prices and notations shall be in ink or typewritten. All corrections (which have been initiated by the Bidder 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 bid proposal.
- C. Failure to initial all corrections made in the bidding documents shall cause the Bid to be rejected as **non-responsive** and ineligible for further consideration.
- D. Blank spaces must be filled in, using figures. Bidder's failure to submit a price for any Bid item that requires the Bidder to submit a price shall render the Bid **non-responsive** and shall be cause for its rejection.
- 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 bid 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 estimated total Bid, the sum of the Extensions shall govern.
- H. Bids shall not contain any recapitulation of the Work. Conditional Bids will be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.

BIDDING DOCUMENTS

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall 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 Contractor's total Bid. The Bidder shall also list below the portion of the work which will be done by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
✓ Name: <u>Casy Electric</u> Address: <u>14398 Rios Canyon Rd</u> City: <u>El Cajon</u> State: <u>Ca</u> Zip: <u>92021</u> Phone: <u>619 428-2839</u>	Contractor	PLEASE TAKE NOTICE Requirement to provide subcontractors license numbers becomes effective July 1, 2014	Electric	\$ 6746.00			
✓ Name: <u>In-line fence & railing</u> Address: <u>P.O. Box 2637</u> City: <u>Imperial</u> State: <u>Ca</u> Zip: <u>92065</u> Phone: <u>760 789-2282</u>	Contractor		Railing	\$ 68,067.00			
✓ Name: <u>South West Speciality</u> Address: <u>11653 Riverside Dr. #153</u> City: <u>Riverside</u> State: <u>Ca</u> Zip: <u>92040</u> Phone: <u>619 258-9944</u>	Contractor		Toilet accessories	\$ 11,855.00			

① As appropriate, Bidder 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, Bidder 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 Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

14.69 *th*

BIDDING DOCUMENTS

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall 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 Contractor's total Bid. The Bidder shall also list below the portion of the work which will be done by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED (OUT))	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB [ⓐ]	WHERE CERTIFIED [ⓑ]	CHECK IF JOINT VENTURE PARTNERSHIP
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____		PLEASE TAKE NOTICE Requirement to provide subcontractors license numbers becomes effective July 1, 2014					
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							

ⓐ As appropriate, Bidder 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		

ⓑ As appropriate, Bidder 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 Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

BIDDING DOCUMENTS

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall 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 Contractor's total Bid. The Bidder shall also list below the portion of the work which will be done by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED \OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB [ⓐ]	WHERE CERTIFIED [ⓑ]	CHECK IF JOINT VENTURE PARTNERSHIP
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____		PLEASE TAKE NOTICE Requirement to provide subcontractors license numbers becomes effective July 1, 2014					
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							

ⓐ As appropriate, Bidder 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		

ⓑ As appropriate, Bidder 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 Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

BIDDING DOCUMENTS

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall 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 Contractor's total Bid. The Bidder shall also list below the portion of the work which will be done by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT (MUST BE FILLED OUT)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED ②	CHECK IF JOINT VENTURE PARTNERSHIP
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____		PLEASE TAKE NOTICE Requirement to provide subcontractors license numbers becomes effective July 1, 2014					
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							

① As appropriate, Bidder 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, Bidder 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 Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

BIDDING DOCUMENTS

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

The Bidder seeking the recognition of equipment, materials, or supplies obtained from Suppliers towards achieving any mandatory, voluntary, or both subcontracting participation percentages shall list the Supplier(s) on the Named Equipment/Material Supplier List. The Named Equipment/Material Supplier List, at a minimum, shall have the name, locations (City) and the **DOLLAR VALUE** of the Suppliers. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for such materials and supplies unless vendor manufactures or substantially alters materials and supplies in which case 100% will be credited. The Bidder is to indicate (Yes/No) whether listed firm is a supplier or manufacturer. In calculating the subcontractor participation percentages, vendors/suppliers will receive 60% credit of the listed **DOLLAR VALUE**, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage, Suppliers will receive 60% credit of the listed **DOLLAR VALUE**, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed **DOLLAR VALUE** for purposes of calculating the subcontractor participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	SUBCONTRACTOR LICENSE NUMBER	DOLLAR VALUE OF MATERIAL OR SUPPLIES (MUST BE FILLED OUT)	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB	WHERE CERTIFIED
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____		PLEASE TAKE NOTICE Requirement to provide subcontractors license numbers becomes effective July 1, 2014					
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____							

① As appropriate, Bidder 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, Bidder 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 Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.