

City of San Diego

CONTRACTOR'S NAME: SOLPAC Construction, Inc. DBA Soltek Pacific Construction
ADDRESS: 2424 Congress St., San Diego, CA 92110
TELEPHONE NO.: 619-296-6247 **FAX NO.:** _____
CITY CONTACT: Rosa Riego, Senior Contract Specialist, Email: RRiego@sandiego.gov
Phone No. (619) 533-3426
Y. Lozano / A. Jaro / Y. Kawai

BIDDING DOCUMENTS



FOR

AIR & SPACE MUSEUM ROOF REPLACEMENT

BID NO.: _____ **K-26-2396-DBB-3-A**
SAP NO. (WBS/IO/CC): _____ **B-20116**
CLIENT DEPARTMENT: _____ **2113**
COUNCIL DISTRICT: _____ **3**
PROJECT TYPE: _____ **BT**

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

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

BID DUE DATE:

2:00 PM
JANUARY 29, 2026

CITY OF SAN DIEGO'S ELECTRONIC BIDDING SITE, PLANETBIDS

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

ENGINEER OF WORK

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

Digitally signed by Naveen H. Waney
DN: C=US,
E=nwaney@plattwhitelaw.com,
O=Platt/Whitelaw Architects, Inc.,
OU=Principal, CN=Naveen H. Waney
Date: 2025.11.17 16:02:58-08'00'

Naveen H. Waney

November 17, 2025

1) For Registered Architect

Date

Seal:



2) For City Engineer

11/18/2025

Date

Seal:



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REQUIRED DOCUMENTS SCHEDULE DURING BIDDING AND AWARDING

The Bidder's attention is directed to the City's Municipal Code §22.0807(d)(2) for important information regarding grounds for debarment for failure to submit required documentation.

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/>

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
1.	Bid Bond (PDF via PlanetBids)	At Time of Bid	ALL BIDDERS
2.	Contractor's Certification of Pending Actions	At Time of Bid	ALL BIDDERS
3.	Mandatory Disclosure of Business Interests	At Time of Bid	ALL BIDDERS
4.	Debarment and Suspension Certification for Prime Contractors	At Time of Bid	ALL BIDDERS
5.	Debarment and Suspension Certification for Subcontractors, Suppliers & Mfgs	At Time of Bid	ALL BIDDERS
6.	Bid Bond (Original)	By 5PM 1 working day after bid opening	ALL BIDDERS
7.	SLBE Good Faith Effort Documentation	By 5PM 3 working days after bid opening	ALL BIDDERS
8.	Form AA60 – List of Work Made Available	By 5PM 3 working days after bid opening with Good Faith Effort (GFE) documentation	ALL BIDDERS
9.	If the Contractor is a Joint Venture: <ul style="list-style-type: none"> • Joint Venture Agreement • Joint Venture License 	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER
10.	Payment & Performance Bond; Certificates of Insurance & Endorsements; and Signed Contract Agreement Page	Within 10 working days of receipt by bidder of contract forms and NOI	AWARDED BIDDER
11.	In-Use Off-Road Diesel Fueled Fleet Regulation (OFF-ROAD REGULATION) Compliance	Within 10 working days of receipt by bidder of contract forms and NOI	AWARDED BIDDER

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
12.	Listing of "Other Than First Tier" Subcontractors	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER
13.	PLA Forms <ul style="list-style-type: none"> • Letter of Assent • Job Coordinator Designation Form 	Within 10 working days of receipt by bidder of NOI	AWARDED BIDDER

NOTICE INVITING BIDS

1. **SUMMARY OF WORK:** This is the City of San Diego's (City) solicitation process to acquire Construction services for **AIR & SPACE MUSEUM ROOF REPLACEMENT**. For additional information refer to Attachment A.
2. **FULL AND OPEN COMPETITION:** This solicitation is subject to full and open competition and may be bid by Contractors on the City's approved Prequalified Contractors List. For information regarding the Contractors Prequalified list visit the City's web site: <http://www.sandiego.gov>.
3. **ESTIMATED CONSTRUCTION COST:** The City's estimated construction cost for this project is **\$7,500,000.00**.
4. **BID DUE DATE AND TIME ARE: JANUARY 29, 2026 at 2:00 PM.**
5. **PREVAILING WAGE RATES APPLY TO THIS CONTRACT:** Refer to Attachment D.
6. **LICENSE REQUIREMENT:** To be eligible for award of this contract, Prime contractor must possess the following licensing classification: **B**
7. **PROJECT LABOR AGREEMENT:**
 - 7.1. This work is covered by a Citywide Project Labor Agreement (PLA) entered into by the City of San Diego, the San Diego Building and Construction Trades Council and signatory Craft Unions, included herein as Attachment H.

This work will provide many opportunities for local residents and local small business enterprises to participate. It is the City's policy that contractors will cooperate with all efforts of the City, the Project Labor Coordinator, the Jobs Coordinator, and other organizations retained by the City to encourage and assist in the participation of Local, Targeted and/or Veteran workers.
 - 7.2. **LETTER OF ASSENT.** The Contractor and all subcontractors agree to be bound by the PLA by submitting a Letter of Assent (PLA Attachment B) to the City's Project Labor Coordinator. The Contractor shall submit its Letter of Assent as a condition of award and all subcontractors shall submit their Letter of Assent before commencing any Work on the Project.
 - 7.3. **PRE-JOB CONFERENCE.** Each contractor, regardless of tier, is required to conduct a pre-job conference with the Unions not later than ten (10) calendar days prior to commencing work.

The Prime Contractor is responsible for facilitating and scheduling their own pre-job conferences and for facilitating, scheduling, and ensuring that all its subcontractors conduct a pre-job conference.
 - 7.4. **JOBS COORDINATOR.** The Contractor will be required to hire a Jobs Coordinator, an independent third-party individual, entity or employee with whom the Prime

Contractor enters into a contract or employs to assist the Contractor with achieving and exceeding the Local Worker goals set forth in the PLA, Article 4, Section 4.5, to assist with fulfilling the Work Opportunities Program as set forth in Article 22, and to assist with Helmets to Hardhats participation as set forth in Article 23.

Each subcontractor, regardless of tier, shall utilize the Jobs Coordinator retained by the Prime Contractor, pursuant to the PLA, Article 22 Section 22.2 (f). The Contractor shall submit a Jobs Coordinator Designation Form as a condition of award.

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

8.1. 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 | 1.75% |
| 2. ELBE participation | 1.95% |
| 3. Total mandatory participation | 3.70% |

8.2. The current list of Certified SLBE/ELBE Firms to be used for outreach for this project is posted to the Documents tab on PlanetBids.

8.3. The Bid may be declared non-responsive if the Bidder fails to meet the following requirements:

8.3.1. Attending the Pre-Bid Meeting.

8.3.2. Include SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; **OR**

8.3.3. Submit Good Faith Effort (GFE) documentation, saved in searchable Portable Document Format (PDF), demonstrating the Bidder made a good faith effort to conduct outreach to and include SLBE-ELBE Subcontractors as required in this solicitation by 5PM 3 Working Days after the Bid opening if the overall mandatory participation percentage is not met.

All submittals in searchable PDF shall be submitted electronically within the prescribed time identified in the contract documents via PlanetBids by invitation to the point of contact named in the bid provided by the Contract Specialist to all bidders.

9. PRE-BID MEETING AND PRE-BID SITE VISIT:

9.1. ONLINE PRE-BID MEETING:

Prospective Bidders are **Required** to attend the Pre-Bid Meeting.

Failure to attend the Pre-Bid Meeting will result in the Bidder's Bid being deemed non-responsive.

Bidders will not be admitted after the specified start time of the Meeting.

The Pre-Bid Meeting will be held on **December 10, 2025**, at **10:00 AM** (PDT) at:

Microsoft Teams [Need help?](#)

[Join the meeting now](#)

Meeting ID: 259 211 278 730 91

Passcode: iM3pB7yL

Dial in by phone

[+1 945-468-5511,,477010977#](#) United States, Dallas

[Find a local number](#)

Phone conference ID: 477 010 977#

For organizers: [Meeting options](#) | [Reset dial-in PIN](#)

Please Note: You will need to join the meeting with a computer, tablet or smartphone with the **Microsoft Teams** in order to sign in via the Chat feature as attendance at the meeting will be evidenced by the Chat sign-in. The Chat feature will also be used for attendees to ask any questions.

The purpose of the meeting is to discuss the scope of the Project, submittal requirements, and any Equal Opportunity Contracting Program requirements and reporting procedures.

Upon entering the meeting, all attendees must use the chat feature to sign in with the following information: Name of firm, Attendee's name, Phone number and Email address.

9.2. PRE-BID SITE VISIT: All those wishing to submit a bid are **encouraged** 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 Purchasing & Contracting Department, Public Works Division at (619) 533-3450 at least 5 Working Days prior to the meeting to ensure availability. The Pre-Bid Site Visit is scheduled as follows:

Time: 9:00 – 10:00 AM

Date: January 8, 2026

**Location: San Diego Air & Space Museum
2001 Pan American Plaza
San Diego, CA 92101**

10. AWARD PROCESS:

- 10.1.** The Award of this contract is contingent upon the Contractor's compliance with all conditions of Award as stated within these documents and within the Notice of Intent to Award.
- 10.2.** Upon acceptance of bids and determination of the apparent low bidder, the City will prepare the contract documents for execution within approximately 21 days of the date of the bid opening. The City will then award the contract upon receipt of properly signed Contract, bonds, and insurance documents.
- 10.3.** This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form by the City Attorney's Office.
- 10.4.** The low Bid will be determined by the Base Bid.
- 10.5.** Once the low Bid has been determined, the City may, at its sole discretion, award the contract for the Base Bid alone.

11. SUBMISSION OF QUESTIONS:

- 11.1.** The Director (or Designee) of the Purchasing & Contracting 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. Any questions related to this solicitation shall be submitted to:

Rosa Riego, Senior Contract Specialist at rriego@sandiego.gov

- 11.2.** Questions received less than 14 days prior to the date for opening of Bids may not be considered.
- 11.3.** Questions or clarifications deemed by the City to be material shall be answered via issuance of an addendum and posted to the City's online bidding service.
- 11.4.** Only questions answered by formal written addenda shall be binding. Oral and other interpretations or clarifications shall be without legal effect. It is the Bidder's responsibility to be informed of any addenda that have been issued and to include all such information in its Bid.

INSTRUCTIONS TO BIDDERS

1. PREQUALIFICATION OF CONTRACTORS:

- 1.1. Contractors submitting a Bid must be pre-qualified for the total amount proposed, including 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 may be deemed **non-responsive** and ineligible for award.
- 1.2. If the applicant is a subsidiary of a parent company, the applicant may provide the consolidated audited financial statement of the parent company; provided, however, that the applicant submits a statement signed by a duly authorized representative of the parent company confirming that the parent company will guarantee the performance of any contract awarded to the applicant. The City may also require the parent company to execute a separate agreement with the City to guarantee the subsidiary's performance prior to executing any contract with the subsidiary.
- 1.3. The completed application must be submitted online no later than 2 weeks prior to the bid opening.
- 1.4. **Joint Venture Bidders Cumulative Maximum Bidding Capacity:** For projects with an engineer's estimate of \$30,000,000 or greater, Joint Ventures submitting bids may be deemed responsive and eligible for award if the cumulative maximum bidding capacity of the individual Joint Venture entities is equal to or greater than the total amount proposed.
 - 1.4.1. Each of the entities of the Joint Venture must have been previously prequalified at a minimum of \$15,000,000.
 - 1.4.2. Bids submitted with a total amount proposed of less than \$30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification. To be eligible for award in this scenario, the Joint Venture itself or at least one of the Joint Venture entities must have been prequalified for the total amount proposed.
 - 1.4.3. Bids submitted by Joint Ventures with a total amount proposed of \$30,000,000 or greater on a project with an engineer's estimate of less than \$30,000,000 are not eligible for Cumulative Maximum Bidding Capacity prequalification.
 - 1.4.4. The Joint Venture designated as the Apparent Low Bidder shall provide evidence of its corporate existence and furnish good and approved bonds in the name of the Joint Venture within 14 Calendar Days of receipt by the Bidder of a form of contract for execution.
- 1.5. Complete information and links to the on-line prequalification application are available at:

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

1.6. Due to the City's responsibility to protect the confidentiality of the contractors' information, City staff will not be able to provide information regarding contractors' prequalification status over the telephone. Contractors may access real-time information about their prequalification status via their vendor profile on [PlanetBids.™](#)

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

2.1. **BIDDERS MUST BE PRE-REGISTERED** with the City's bidding system and possess a system-assigned Digital ID in order to submit an electronic bid.

2.2. The City's bidding system will automatically track information submitted to the site including IP addresses, browsers being used and the URLs from which information was submitted. In addition, the City's bidding system will keep a history of every login instance including the time of login, and other information about the user's computer configuration such as the operating system, browser type, version, and more. Because of these security features, Contractors who disable their browsers' cookies will not be able to log in and use the City's bidding system.

2.3. The City's electronic bidding system is responsible for bid tabulations. Upon the bidder's or proposer's entry of their bid, the system will ensure that all required fields are entered. **The system will not accept a bid for which any required information is missing.** This includes all necessary pricing, subcontractor listing(s) and any other essential documentation and supporting materials and forms requested or contained in these solicitation documents.

2.4. **BIDS REMAIN SEALED UNTIL BID DEADLINE.** eBids are transmitted into the City's bidding system via hypertext transfer protocol secure (https) mechanism using SSL 128-256 bit security certificates issued from Verisign/Thawte which encrypts data being transferred from client to server. Bids submitted prior to the "Bid Due Date and Time" are not available for review by anyone other than the submitter who has until the "Bid Due Date and Time" to change, rescind or retrieve its proposal should it desire to do so.

2.5. **BIDS MUST BE SUBMITTED BY BID DUE DATE AND TIME.** Once the bid deadline is reached, no further submissions are accepted into the system. Once the Bid Due Date and Time has lapsed, bidders, proposers, the general public, and City staff are able to immediately see the results on line. City staff may then begin reviewing the submissions for responsiveness, EOCB compliance and other issues. The City may require any Bidder to furnish statement of experience, financial responsibility, technical ability, equipment, and references.

2.6. RECAPITULATION OF THE WORK. Bids shall not contain any recapitulation of the Work. Conditional Bids may be rejected as being non-responsive. Alternative proposals will not be considered unless called for.

2.7. BIDS MAY BE WITHDRAWN by the Bidder only up to the bid due date and time.

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

2.8. ACCESSIBILITY AND AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE: To request a copy of this solicitation in an alternative format, contact the Purchasing & Contracting Department, Public Works Division Contract Specialist listed on the cover of this solicitation at least five (5) working days prior to the Bid/Proposal due date to ensure availability.

3. ELECTRONIC BID SUBMISSIONS CARRY FULL FORCE AND EFFECT:

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

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

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

3.4. The Bidder agrees to the construction of the project as described in Attachment "A-Scope of Work" for the City of San Diego, in accordance with the requirements set forth herein for the electronically submitted prices. The Bidder guarantees the Contract Price for a period of 120 days from the date of Bid opening. 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.

4. 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.

5. CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:

5.1. **Prior** to the Award of the Contract or Task Order, you and your Subcontractors and Suppliers must register with the City’s web-based vendor registration and bid management system. For additional information go to:

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

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

6. JOINT VENTURE CONTRACTORS: Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 14 Calendar Days after receiving the Contract forms.

7. INSURANCE REQUIREMENTS:

7.1. 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.

7.2. Refer to sections 5-4, “INSURANCE” of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.

8. 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”) http://www.greenbookspecs.org/	2021	ECPI010122-01
City of San Diego Standard Specifications for Public Works Construction (“The WHITEBOOK”)* https://www.sandiego.gov/ecp/edocref/greenbook	2021	ECPI010122-02
City of San Diego Standard Drawings* https://www.sandiego.gov/ecp/edocref/standarddraw	2021	ECPI010122-03

Title	Edition	Document Number
Citywide Computer Aided Design and Drafting (CADD) Standards https://www.sandiego.gov/ecp/edocref/drawings	2018	PWPI010119-04
California Department of Transportation (CALTRANS) Standard Specifications https://dot.ca.gov/programs/design/july-2023-ccs-standard-plans-and-standard-specifications	2023	ECPD092023-05
CALTRANS Standard Plans https://dot.ca.gov/programs/design/july-2023-ccs-standard-plans-and-standard-specifications	2023	ECPD092023-06
California Manual on Uniform Traffic Control Devices Revision 9 (CA MUTCD Rev 9) https://dot.ca.gov/programs/safety-programs/camutcd	2014	ECPD080725-07
<p>NOTE: *Available online under Engineering Documents and References at: https://www.sandiego.gov/ecp/edocref/</p> <p>*Electronic updates to the Standard Drawings may also be found in the link above</p>		

9. **CITY'S RESPONSES AND ADDENDA:** The City, at its discretion, may respond to any or all questions submitted in writing via the City's eBidding web site in the **form of an addendum**. No other responses to questions, oral or written shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addenda are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda at the time of bid submission.

10. **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.

11. **CONTRACT PRICING:** This solicitation is for a Lump Sum contract with Unit Price provisions as set forth herein. The Bidder agrees to perform construction services for the City of San Diego in accordance with these contract documents for the prices listed below. The Bidder further agrees to guarantee the Contract Price for a period of 120 days from the date of Bid opening. The duration of the Contract Price guarantee may be extended, by mutual consent of the parties, by the number of days required for the City to obtain all items necessary to fulfill all contractual conditions.

12. **SUBCONTRACTOR INFORMATION:**
 - 12.1. **LISTING OF SUBCONTRACTORS.** In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act" of the California Public Contract Code, the Bidder shall provide the **NAME** and **ADDRESS** of each Subcontractor who will perform work, labor, render services or who 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 state within the description, whether the

subcontractor is a **CONSTRUCTOR, CONSULTANT** or **SUPPLIER**. The Bidder shall state the **DIR REGISTRATION NUMBER** for all subcontractors and shall further state within the description, the **PORTION** of the work which will be performed 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 may result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions – Section 3-2, “Self-Performance”, 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 for which Bidders are seeking recognition towards achieving any mandatory, voluntary (or both) subcontracting participation goals.

Additionally, pursuant to California Senate Bill 96 and in accordance with the requirements of Labor Code sections 1771.1 and 1725.5, by submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the California Department of Industrial Relations (DIR). **The Bidder shall provide the name, address, license number, DIR registration number of any Subcontractor – regardless of tier** - who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement pursuant to the contract.

12.2. LISTING OF SUPPLIERS. Any Bidder seeking the recognition of Suppliers of equipment, materials, or supplies obtained from third party Suppliers towards achieving any mandatory or voluntary (or both) subcontracting participation goals shall provide, at a minimum, the **NAME, LOCATION (CITY), DIR REGISTRATION NUMBER** and the **DOLLAR VALUE** of each supplier. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for materials and supplies unless vendor manufactures or substantially alters materials and supplies, in which case, 100% will be credited. The Bidder is to indicate within the description whether the listed firm is a supplier or manufacturer. If no indication is provided, the listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage.

12.3. LISTING OF SUBCONTRACTORS OR SUPPLIERS FOR ALTERNATES. For subcontractors or suppliers to be used on alternate items, bidder shall use the provided **“Subcontractors For Alternates”** form and shall indicate for each alternate subcontract whether it is an additive or deductive alternate; the subcontractor's name, location, phone number, email address, CA license number, and DIR registration number; whether the subcontractor is a designer, constructor or supplier; the type of work the subcontractor will be performing; and the dollar value of the subcontract for that alternate item. Failure to comply with this requirement may result in the bid being rejected as nonresponsive and ineligible for award.

13. SUBMITTAL OF “OR EQUAL” ITEMS: See Section 4-6, “Trade Names” in The WHITEBOOK and as amended in the SSP.

- 14. AWARD:**
- 14.1.** The Award of this contract is contingent upon the Contractor's compliance with all conditions precedent to Award.
- 14.2.** 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.
- 14.3.** This contract will be deemed executed and effective only upon the signing of the Contract by the Mayor or his designee and approval as to form the City Attorney's Office.
- 15. SUBCONTRACT LIMITATIONS:** The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 3-2, "SELF-PERFORMANCE" 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.
- 16. AVAILABILITY OF PLANS AND SPECIFICATIONS:** Contract Documents may be obtained by visiting the City's website: <http://www.sandiego.gov/cip/>. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Purchasing & Contracting Department, Public Works Division.
- 17. ONLY ONE BID PER CONTRACTOR SHALL BE ACCEPTED:** 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.
- 18. 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 within these documents.
- 19. BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY) FOR DESIGN-BID-BUILD CONTRACTS:**
- 19.1.** For bids \$250,000 and above, bidders shall submit Bid Security at bid time. Bid Security shall be in one of the following forms: a cashier's check, or a properly certified check upon some responsible bank; or an approved corporate surety bond payable to the City of San Diego for an amount of not less than 10% of the total bid amount.
- 19.2.** This check or bond, and the monies represented thereby, will be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into the contract and furnish the required final performance and payment bonds.

- 19.3. The Bidder agrees that in the event of the Bidder's failure to execute this contract and provide the required final bonds, the money represented by the cashier's or certified check will remain the property of the City; and the Surety agrees that it will pay to the City the damages, not exceeding the sum of 10% of the amount of the Bid, that the City may suffer as a result of such failure.
- 19.4. At the time of bid submission, bidders must upload and submit an electronic PDF copy of the aforementioned bid security. Whether in the form of a cashier's check, a properly certified check or an approved corporate surety bond payable to the City of San Diego, the bid security must be uploaded to the City's eBidding system. By 5PM, 1 working day after the bid opening date, all bidders must provide the City with the original bid security.
- 19.5. Failure to submit the electronic version of the bid security at the time of bid submission AND failure to provide the original by 5PM, 1 working day after the bid opening date shall cause the bid to be rejected and deemed **non-responsive**.

Original Bid Bond shall be submitted to:
Purchasing & Contracting Department, Public Works Division
1200 3rd Ave., Suite 200, MS 56P
San Diego, California, 92101
To the Attention of the Contract Specialist on the Front Page of this solicitation.

20. AWARD OF CONTRACT OR REJECTION OF BIDS:

- 20.1. This contract may be awarded to the lowest responsible and reliable Bidder.
- 20.2. Bidders shall complete ALL eBid forms as required by this solicitation. Incomplete eBids will not be accepted.
- 20.3. The City reserves the right to reject any or all Bids, to waive any informality or technicality in Bids received, and to waive any requirements of these specifications as to bidding procedure.
- 20.4. Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City within 3 Working Days of the bid opening, written notice from the Bidder which shows proof of honest, credible, clerical error of a material nature, free from fraud or fraudulent intent; and of evidence that reasonable care was observed in the preparation of the Bid.
- 20.5. A bidder who is not selected for contract award may protest the award of a contract to another bidder by submitting a written protest in accordance with the San Diego Municipal Code.
- 20.6. The City of San Diego will not discriminate in the award of contracts with regard to race, religion creed, color, national origin, ancestry, physical handicap, marital status, sex or age.
- 20.7. Each Bid package properly signed as required by these specifications shall constitute a firm offer which may be accepted by the City within the time specified herein.
- 20.8. The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of the base bid and any proposed alternates or options as detailed herein.

21. BID RESULTS:

- 21.1.** The availability of the bids on the City's eBidding system 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 notation of such will be made on the eBidding system. The new ranking and apparent low bidder will be adjusted accordingly.
- 21.2.** To obtain the bid results, view the results on the City's web site, or request the results by U.S. mail and provide a self-addressed, stamped envelope. If requesting by mail, be sure to reference the bid name and number. The bid tabulations will be mailed to you upon their completion. The results will not be given over the telephone.

22. THE CONTRACT:

- 22.1.** 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.
- 22.2.** 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.
- 22.3.** 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.
- 22.4.** 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.
- 22.5.** 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 and approval as to form by the City Attorney's Office. 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.

- 23. 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 3-9, "TECHNICAL STUDIES AND SUBSURFACE DATA", 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.
- 24. CITY STANDARD PROVISIONS:** This contract is subject to the following standard provisions. See The WHITEBOOK for details.
- 24.1.** The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.
 - 24.2.** The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.
 - 24.3.** The City of San Diego Municipal Code §22.3004 for Contractor Standards.
 - 24.4.** The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.
 - 24.5.** 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.
 - 24.6.** The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).
 - 24.7.** The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.
- 25. PRE-AWARD ACTIVITIES:**
- 25.1.** The contractor selected by the City to execute a contract for this Work shall submit the required documentation as specified herein and in the Notice of Intent to Award. Failure to provide the information as specified may result in the Bid being rejected as **non-responsive**.
 - 25.2.** The decision that bid is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND
FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

SOLPAC Construction, Inc dba Soltek Construction Company, a corporation, as principal, and Liberty Mutual Insurance Company, 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 Seven Million Eight Hundred Seventy Eight Thousand Five Hundred Sixty Eight Dollars and Zero Cents (\$7,878,568.00) for the faithful performance of the annexed contract, and in the sum of Seven Million Eight Hundred Seventy Eight Thousand Five Hundred Sixty Eight Dollars and Zero Cents (\$7,878,568.00) for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract with the City of San Diego, California, then the obligation herein with respect to a faithful performance shall be void; otherwise it shall remain in full force.

If the Principal shall promptly pay all persons, firms and corporations furnishing materials for or performing labor in the execution of this contract, and shall pay all amounts due under the California Unemployment Insurance Act then the obligation herein with respect to laborers and materialmen shall be void; otherwise it shall remain in full force.

The obligation herein with respect to laborers and materialmen shall inure to the benefit of all persons, firms and corporations entitled to file claims under the provisions of Article 2. Claimants, (iii) public works of improvement commencing with Civil Code Section 9100 of the Civil Code of the State of California.

Changes in the terms of the annexed contract or specifications accompanying same or referred to therein shall not affect the Surety's obligation on this bond, and the Surety hereby waives notice of same.

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

The Surety expressly agrees that the City of San Diego may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal.

The Surety shall not utilize the Principal in completing the Improvements and work specified in the Agreement in the event the City terminates the Principal for default.

PERFORMANCE BOND, LABOR AND MATERIALMEN'S BOND (continued)

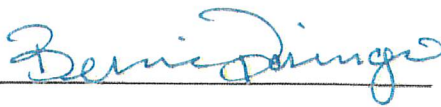
Solpac Construction, Inc. dba
Soltek Pacific Construction Company
CONTRACTOR

By: 

Print Name: Brandon Richie, CEO

Date: 3/25/26

THE CITY OF SAN DIEGO

By: 

Print Name: Berric Doringo
Deputy Director
Purchasing & Contracting Department

Date: 5/15/2026

Liberty Mutual Insurance Company
SURETY

By: 

Print Name: Lawrence F. McMahon
Attorney-In-Fact

Date: March 24, 2026

790 The City Drive South, Suite 200
Orange, CA 92868

Local Address of Surety

714-634-5722

Local Phone Number of Surety

\$50,850.00

Premium Subject to Adjustment Based
on Final Contract Price

024292592

Bond Number

APPROVED AS TO FORM
Heather Ferbert, City Attorney

By: 

Print Name: Ray Palmer
Deputy City Attorney

Date: 5/20/26

CALIFORNIA CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)

County of SAN DIEGO)

On APRIL 2, 2026 before me, ANGELINA S. ADAPON,
(here insert name and title of the officer)

personally appeared BRANDON RICHIE

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)

Optional Information

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of PERFORMANCE BOND, LABOR

AND MATERIAL BOND - \$1168

containing 2 pages, and dated 3/25/26

The signer(s) capacity or authority is/are as:

- Individual(s)
 Attorney-in-Fact
 Corporate Officer(s) CEO Title(s)

- Guardian/Conservator
 Partner - Limited/General
 Trustee(s)
 Other: _____

representing: _____
Name(s) of Person(s) or Entity(ies) Signer is Representing

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:
 form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:
Page # _____ Entry # _____

Notary contact: _____

Other

Additional Signer(s) Signer(s) Thumbprint(s)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT Civil Code § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy or validity of that document.

STATE OF CALIFORNIA

County of San Diego



On 3/24/2026 before me, Sarah Myers, Notary Public,
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Lawrence F. McMahon
Name(s) of Signer(s)

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]
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of the form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

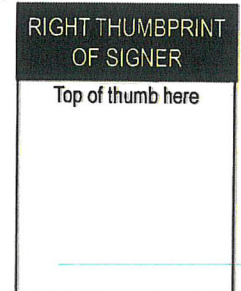
- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer is Representing:
Surety Company

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer is Representing: _____



POWER OF ATTORNEY

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8213991 - 024019

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Christopher Conte, Dale G. Harshaw, Geoffrey Shelton, John R. Qualin, Lawrence F. McMahon, Lilia De Lóora, Maria Hallmark, Minna Huovila, Natassia Kirk-Smith, Ryan Warnock, Sarah Myers, Tara Bacon

all of the city of San Diego state of CA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 6th day of May, 2025.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: Nathan J. Zangerle

Nathan J. Zangerle, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 6th day of May, 2025 before me personally appeared Nathan J. Zangerle, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2029
Commission number 1126944
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Nathan J. Zangerle, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 24th day of March, 2026.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

ATTACHMENTS

ATTACHMENT A
SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** This project proposes to renovate and rehabilitate the existing roof structure of The San Diego Air & Space Museum. The proposed work includes the repainting of the building's exterior; repair or replacement of existing exterior cement plaster system, sheet metal fins, roof drains, and roof piping including some drainage piping that is below grade; removal and replacement of the existing donut-shaped lower roof's roofing system; re-coating of the existing tower/rotunda roofing system; replacement of fin lighting and roof screen wall lighting; and installation of new interior ladders and roof opening guards at existing roof hatches. All proposed work will follow the Secretary of the Interior's standards for the treatment of historic properties. No changes will be made to the building's height, area, or occupancy.
 - 1.1. The Work shall be performed in accordance with:
 - 1.1.1. The Notice Inviting Bids and Plans numbered **0101445-001-D** through **0101445-029-D**, inclusive.
2. **LOCATION OF WORK:** The location of the Work is as follows:

San Diego Air & Space Museum, 2001 Pan American Plaza, San Diego, CA 92101

See **Appendix E – Location Map**.
3. **CONTRACT TIME:** The Contract Time for completion of the Work shall be **242 Working Days**.

ATTACHMENT B

RESERVED

ATTACHMENT C
EQUAL OPPORTUNITY CONTRACTING PROGRAM

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP)

SECTION A - GENERAL REQUIREMENTS

A. INTRODUCTION.

1. This document sets forth the following specifications:
 - a) The City's general EOCP requirements for all Construction Contracts.
 - b) Special Provisions for Contracts subject to SLBE and ELBE requirements only.
2. Additional requirements may apply for state or federally funded projects.
3. These requirements shall be included as Contract provisions for all Subcontracts.
4. The City specified forms, instructions, and guides are available for download from the EOCP's web site at: <http://www.sandiego.gov/eoc/forms>

B. GENERAL.

1. The City of San Diego promotes equal employment and subcontracting opportunities.
2. The City is committed to ensuring that taxpayer dollars spent on public Contracts are not paid to businesses that practice discrimination in employment or subcontracting.
3. The City encourages all companies seeking to do business with the City to share this commitment.

C. DEFINITIONS.

1. For the purpose of these requirements: Terms "Bid" and "Proposal", "Bidder" and "Proposer", "Subcontractor" and "Subconsultant", "Contractor" and "Consultant", "Contractor" and "Prime Contractor", "Consultant" and "Professional Service Provider", "Suppliers" and "Vendors", "Suppliers" and "Dealers", and "Suppliers" and "Manufacturers" may have been used interchangeably.
2. The following definitions apply:
 - a) **Emerging Business Enterprise (EBE)** - A for-profit business that is independently owned and operated; that is not a subsidiary or franchise of another business and whose gross annual receipts do not exceed the amount set by the City Manager and that meets all other criteria set forth in regulations implementing Municipal Code Chapter 2, Article 2, Division 36. The City Manager shall review the threshold amount for EBEs on an annual basis and adjust as necessary to reflect changes in the marketplace.
 - b) **Emerging Local Business Enterprise (ELBE)** - A Local Business Enterprise that is also an Emerging Business Enterprise.

- c) **Minority Business Enterprise (MBE)** - A certified business that is at least fifty-one percent (51%) owned by one or more minority individuals, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more minority individuals; and (2) whose daily business operations are managed and directed by one or more minorities owners. Minorities include the groups with the following ethnic origins: African, Asian Pacific, Asian Subcontinent, Hispanic, Native Alaskan, Native American, and Native Hawaiian.
- d) **Women Business Enterprise (WBE)** - A certified business that is at least fifty-one percent (51%) owned by a woman or women, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more women; and (2) whose daily business operations are managed and directed by one or more women owners.
- e) **Disadvantaged Business Enterprise (DBE)** - a certified business that is at least fifty-one percent (51%) owned by socially and economically disadvantaged individuals, or, in the case of a publicly owned business at least fifty-one percent (51%) of the stock is owned by one or more socially and economically disadvantaged individuals; and (2) whose daily business operations are managed and directed by one or more socially and economically disadvantaged owners.
- f) **Disabled Veteran Business Enterprise (DVBE)** - A certified business that is at least fifty-one percent (51%) owned by one or more disabled veterans; and (2) business operations must be managed and controlled by one or more disabled veterans. Disabled Veteran is a veteran of the U.S. military, naval, or air service; the veteran must have a service-connected disability of at least 10% or more; and the veteran must reside in California.
- g) **Other Business Enterprise (OBE)** - Any business which does not otherwise qualify as a Minority, Woman, Disadvantaged, or Disabled Veteran Business Enterprise.
- h) **Small Business Enterprise (SBE)** - A for-profit business that is independently owned and operated; that is not a subsidiary or franchise of another business and whose gross annual receipts do not exceed the amount set by the City Manager and that meets all other criteria set forth in regulations implementing Municipal Code Chapter 2, Article 2, Division 36. The City Manager shall review the threshold amount for SBEs on an annual basis and adjust as necessary to reflect changes in the marketplace. A business certified as a Micro Business (MB) or a Disabled Veteran Business Enterprise (DVBE) by the State of California and that has provided proof of such certification to the City Manager shall be deemed to be an SBE.

- i) **Small Local Business Enterprise (SLBE)** - A Local Business Enterprise that is also a Small Business Enterprise.

D. CITY'S EQUAL OPPORTUNITY COMMITMENT.

1. Nondiscrimination in Contracting Ordinance.

- a) You, your Subcontractors, and Suppliers shall comply with the requirements of the City's Nondiscrimination in Contracting Ordinance, San Diego Municipal Code §§22.3501 through 22.3517.

You shall not discriminate on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers. You shall provide equal opportunity for Subcontractors to participate in subcontracting opportunities. You understand and agree that the violation of this clause shall be considered a material breach of the Contract and may result in Contract termination, debarment, or other sanctions.

You shall include the foregoing clause in all Contracts between you and your Subcontractors and Suppliers.

- b) **Disclosure of Discrimination Complaints.** As part of its Bid or Proposal, you shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against you in a legal or administrative proceeding alleging that you discriminated against your employees, Subcontractors, vendors, or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.
- c) Upon the City's request, You agree to provide to the City, within 60 Calendar Days, a truthful and complete list of the names of all Subcontractors and Suppliers that you have used in the past 5 years on any of your Contracts that were undertaken within the San Diego County, including the total dollar amount paid by you for each Subcontract or supply Contract.
- d) You further agree 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. You understand and agree that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against you up to and including contract termination, debarment, and other sanctions for the violation of the provisions of the Nondiscrimination in Contracting Ordinance. You further understand and agree 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. You, your Subcontractors, and Suppliers shall comply with the City's Equal Employment Opportunity Outreach Program, San Diego Municipal Code §§22.2701 through 22.2707.

You shall not discriminate against any employee or applicant for employment on any basis prohibited by law. You shall provide equal opportunity in all employment practices. You shall ensure that your Subcontractors comply with this program. Nothing in this section shall be interpreted to hold you liable for any discriminatory practices of your Subcontractors.

You shall include the foregoing clause in all Contracts between you and your 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 to the City for approval as specified in the Notice of Intent to Award letter.
3. The selected Bidder shall submit an Equal Employment Opportunity Plan if a Work Force Report is submitted and if the City determines that there are under-representations when compared to County Labor Force Availability data.
4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:
 - a) You shall maintain a working environment free of discrimination, harassment, intimidation, and coercion at all Sites and in all facilities at which your employees are assigned to Work.
 - b) You shall review your EEO Policy annually with all on-Site supervisors involved in employment decisions.
 - c) You shall disseminate and review your EEO Policy with all employees at least once a year, post the policy statement and EEO posters on all company bulletin boards and job sites, and document every dissemination, review, and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.
 - d) You shall review, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintain written documentation of these reviews.
 - e) You shall discuss your EEO Policy Statement with Subcontractors with whom you anticipate doing business, including the EEO Policy Statement in your Subcontracts, and provide such documentation to the City upon request.

- f) You shall document and maintain a record of all Bid solicitations and outreach efforts to and from Subcontractors, contractor associations, and other business associations.
- g) You shall disseminate your EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit. Maintain files documenting these efforts and provide copies of these advertisements to the City upon request.
- h) You shall disseminate your EEO Policy to union and community organizations.
- i) You shall provide immediate written notification to the City when any union referral process has impeded your efforts to maintain your EEO Policy.
- j) You shall maintain a current list of recruitment sources, including those outreaching to people of color and women, and provide written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.
- k) You shall maintain 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.
- l) You shall encourage all present employees, including people of color and women employees, to recruit others.
- m) You shall maintain all employment selection process information with records of all tests and other selection criteria.
- n) You shall develop and maintain documentation for on-the-job training opportunities, participate in training programs, or both for all of your employees, including people of color and women, and establish apprenticeship, trainee, and upgrade programs relevant to your employment needs.
- o) You shall conduct, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourage all employees to seek and prepare appropriately for such opportunities.
- p) You shall ensure that 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.

F. SUBCONTRACTING.

1. The City encourages all eligible business enterprises to participate in City contracts as a Contractor, Subcontractor, and joint venture partner with you, your Subcontractors, or your Suppliers. You are encouraged to take positive steps to diversify and expand your Subcontractor solicitation base and to offer

subcontracting opportunities to all eligible business firms including SLBEs, ELBEs, MBEs, WBEs, DBEs, DVBES, and OBEs.

2. For Subcontractor participation level requirements, see the Contract Documents where applicable.
3. For the purposes of achieving the mandatory Subcontractor participation percentages, City percentage calculations will not account for the following:
 - a) "Field Orders" and "City Contingency" Bid items.
 - b) Alternate Bid items.
 - c) Allowance Bid items designated as "EOC Type II".
4. Allowance Bid items designated as "EOC Type I" will be considered as part of the Base Bid and will be included in the percentage calculation.
5. Each joint venture partner shall be responsible for a clearly defined Scope of Work. In addition, an agreement shall be submitted and signed by all parties identifying the extent to which each joint venture partner shares in ownership, control, management, risk, and profits of the joint venture.

G. LISTS OF SUBCONTRACTORS AND SUPPLIERS.

1. You shall comply with the Subletting and Subcontracting Fair Practices Act, Public Contract Code §§4100 through 4113, inclusive.
2. You shall list all Subcontractors who will receive more than 0.5% of the total Bid amount or \$10,000, whichever is greater on the form provided in the Contract Documents (Subcontractors list).
3. The Subcontractors list shall include the Subcontractor's name, telephone number including area code, physical address, Scope of Work, the dollar amount of the proposed Subcontract, the California contractor license number, the Public Works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, and the Subcontractor's certification status with the name of the certifying agency.
4. The listed Subcontractor shall be appropriately licensed pursuant to Contractor License Laws.
5. For Design-Build Contracts, refer to the RFQ and RFP for each Project or Task Order.

H. SUBCONTRACTOR AND SUPPLIER SUBSTITUTIONS.

1. Listed Subcontractors and Suppliers shall not be substituted without the Express authorization of the City or its duly authorized agent.
2. Request for Subcontractor or Supplier substitution shall be made in writing to Purchasing & Contracting Department, Public Works Division, Attention Contract Specialist, 1200 3rd Ave., Suite 200, MS 56P, San Diego, CA 92101 with a copy to the Engineer.

3. The request shall include a thorough explanation of the reason(s) for the substitution, including dollar amounts and a letter from each substituted Subcontractor or Supplier stating that they (the Subcontractors or Suppliers) release all interest in working on the Project and written confirmation from the new Subcontractor or Supplier stating that they agree to work on the Project along with the dollar value of the Work to be performed.
4. Written approval of the substitution request shall be received by you or from the City or its authorized officer prior to any unlisted Subcontractor or Supplier performing Work on the Project.
5. Substitution of Subcontractors and Suppliers without authorization shall subject you to those penalties set forth in Public Contract Code §4110.
6. Requests for Supplier substitution shall be made in writing at least 10 Days prior to the provision of materials, supplies, or services by the proposed Supplier and shall include proof of written notice to the originally listed Supplier of the proposed substitution.
7. A Contractor whose Bid is accepted shall not:
 - a) Substitute a person as Subcontractor or Supplier in place of the Subcontractor or Supplier listed in the original bid, except that the City, or its duly authorized officer, may consent to the substitution of another person as a Subcontractor or Supplier in any of the following situations:
 - i. When the Subcontractor or Supplier listed in the Bid, after having a reasonable opportunity to do so, fails or refuses to execute a written Contract for the scope of work specified in the subcontractor's bid and at the price specified in the subcontractor's bid, when that written contract, based upon the general terms, conditions, plans, and specifications for the project involved or the terms of the subcontractor's written bid, is presented to the subcontractor by the prime contractor.
 - ii. When the listed Subcontractor or Supplier becomes insolvent or the subject of an order for relief in bankruptcy.
 - iii. When the listed Subcontractor or Supplier fails or refuses to perform his or her subcontract.
 - iv. When the listed Subcontractor fails or refuses to meet bond requirements as set forth in Public Contract Code §4108.
 - v. When you demonstrate to the City or its duly authorized officer, subject to the provisions set forth in Public Contract Code §4107.5, that the name of the Subcontractor was listed as the result of an inadvertent clerical error.
 - vi. When the listed Subcontractor is not licensed pursuant to Contractor License Law.

- vii. When the City, or its duly authorized officer, determines that the Work performed by the listed Subcontractor or that the materials or supplies provided by the listed Supplier are substantially unsatisfactory and not in substantial accordance with the Plans and specifications or that the Subcontractor or Supplier is substantially delaying or disrupting the progress of the Work.
 - viii. When the listed Subcontractor is ineligible to work on a public works project pursuant to §§1777.1 or 1777.7 of the Labor Code.
 - ix. When the City or its duly authorized agent determines that the listed Subcontractor is not a responsible contractor.
- b) Permit a Contract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor, Supplier listed in the original Bid without the consent of the City, or its duly authorized officer.
 - c) Other than in the performance of "Change Orders" causing changes or deviations from the Contract, sublet or subcontract any portion of the Work, or contract for materials or supplies in excess of 0.5% of your total bid or \$10,000, whichever is greater, as to which his or her original Bid did not designate a Subcontractor or Supplier.
8. Following receipt of notice from you of the proposed substitution of a Subcontractor or Supplier, the listed Subcontractor or Supplier who has been so notified shall have 5 Working Days within which to submit written objections to the substitution to the Contract Specialist with a copy to the Engineer. Failure to file these written objections shall constitute the listed Subcontractor or Supplier's consent to the substitution. If written objections are filed, the City shall give notice in writing of at least 5 Working Days to the listed Subcontractor or Supplier of a hearing by the City on your request for substitution.

I. PROMPT PAYMENT.

- 1. You or your Subcontractors shall pay to any subcontractor, not later than 7 Calendar Days of receipt of each progress payment, unless otherwise agreed to in writing, the respective amounts allowed you on account of the Work performed by the Subcontractors, to the extent of each Subcontractor's interest therein. In cases of Subcontractor performance deficiencies, you shall make written notice of any withholding to the Subcontractor with a copy to the Contracts Specialist. Upon correction of the deficiency, you shall pay the Subcontractor the amount previously withheld within 14 Calendar Days after payment by the City.
- 2. Any violation of California Business and Professions Code, §7108.5 concerning prompt payment to Subcontractors shall subject the violating Contractor or

Subcontractor to the penalties, sanctions, and other remedies of that section. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you or your Subcontractor in the event of a dispute involving late payment or nonpayment by the Prime Contractor, deficient subcontract performance, or noncompliance by a Subcontractor.

J. PROMPT PAYMENT OF FUNDS WITHHELD TO SUBCONTRACTORS.

1. The City will hold retention from you and will make prompt and regular incremental acceptances of portions, as determined by the Engineer, of the Work and pay retention to you based on these acceptances.
2. You or your Subcontractors shall return all monies withheld in retention from a Subcontractor within 30 Calendar Days after receiving payment for Work satisfactorily completed and accepted including incremental acceptances of portions of the Work by the City.
3. Federal law (49CFR26.29) requires that any delay or postponement of payment over 30 Calendar Days may take place only for good cause and with the City's prior written approval. Any violation of this provision by you or your Subcontractor shall subject you or your Subcontractor to the penalties, sanctions, and other remedies specified in §7108.5 of the Business and Professions Code.
4. These requirements shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you or your Subcontractor in the event of a dispute involving late payment or nonpayment by you, deficient subcontract performance, or noncompliance by a Subcontractor.

K. CERTIFICATION.

1. The City accepts certifications of DBE, DVBE, MBE, SMBE, SWBE, or WBE by any of the following certifying agencies:
 - a) Current certification by the State of California Department of Transportation (CALTRANS) as DBE, SMBE, or SWBE.
 - b) Current MBE, WBE, or DVBE certification from the California Public Utilities Commission.
 - c) DVBE certification is received from the State of California's Department of General Services, Office of Small and Minority Business.
 - d) Current certification by the City of Los Angeles as DBE, WBE, or MBE.
 - e) Subcontractors' valid proof of certification status (copies of MBE, WBE, DBE, or DVBE certifications) shall be submitted as required.

L. CONTRACT RECORDS AND REPORTS.

1. You shall maintain records of all subcontracts and invoices from your Subcontractors and Suppliers for work on this project. Records shall show

name, telephone number including area code, and business address of each Subcontractor, Supplier, and joint venture partner, and the total amount actually paid to each firm. Project relevant records, regardless of tier, may be periodically reviewed by the City.

2. You shall retain all records, books, papers, and documents pertinent to the Contract for a period of not less than 5 years after Notice of Completion and allow access to said records by the City's authorized representatives.
3. You shall submit the following reports using the City's web-based contract compliance (Prism® portal):
 - a. **Monthly Payment.** You shall submit Monthly Payment Reporting by the 10th day of the subsequent month. Incomplete and/or delinquent reporting may cause payment delays, non-payment of invoices, or both.
4. The records maintained under item 1, described above, shall be consolidated into a Final Summary Report, certified as correct by an authorized representative of the Contractor. The Final Summary Report shall include all subcontracting activities and be sent to the EOCP Program Manager and Office of Labor Standards & Enforcement (OLSE) Prevailing Wage Unit prior to Acceptance. Failure to comply may result in assessment of liquidated damages or withholding of retention. The City will review and verify 100% of subcontract participation reported in the Final Summary Report prior to approval and release of final retention to you. In the event your Subcontractors are owed money for completed Work, the City may authorize payment to subcontractor via a joint check from the withheld retention.

EQUAL OPPORTUNITY CONTRACTING PROGRAM (EOCP)

SECTION B - SLBE-ELBE SUBCONTRACTING REQUIREMENTS

THESE SPECIAL PROVISIONS SUPPLEMENT THE POLICIES AND REQUIREMENTS ESTABLISHED BY THE CITY OF SAN DIEGO EQUAL OPPORTUNITY CONTRACTING PROGRAM SPECIFIED IN THE CITY'S GENERAL EOCP REQUIREMENTS.

A. GENERAL.

1. It is the City's policy to encourage greater availability, capacity development, and contract participation by SLBE and ELBE firms in City contracts. This policy is, in part, intended to further the City's compelling interest to stimulate economic development through the support and empowerment of the local community, ensure that it is neither an active nor passive participant in marketplace discrimination, and promote equal opportunity for all segments of the contracting community.
2. The City is committed to maximizing subcontracting opportunities for all qualified and available firms.
3. This policy applies to City-funded construction contracts. Bidders shall be fully informed of this policy as set forth in these specifications. Mandatory or voluntary subcontracting percentages, Bid Discounts, and restricted competitions are specified in the Contract Documents.
4. You shall make subcontracting opportunities available to a broad base of qualified Subcontractors and shall achieve the minimum SLBE-ELBE Subcontractor participation identified for your project.
5. Failure to subcontract the specified minimum (mandatory) percentages of the Bid to qualified available SLBE-ELBE Subcontractors will cause a Bid to be rejected as non-responsive unless the Bidder has demonstrated compliance with the affirmative steps as specified in the City's document titled "Small Local Business (SLBE) Program, INSTRUCTIONS FOR BIDDERS COMPLETING THE GOOD FAITH EFFORT SUBMITTAL" and has submitted documentation showing that all required positive efforts were made prior to the Bid submittal due date. The required Good Faith Effort (GFE) documentation shall be submitted to the Contract Specialist. The instructions for completing the good faith effort submittal can be found on the City's website:
<https://www.sandiego.gov/sites/default/files/legacy/eoc/pdf/slbegeinst.pdf>
6. The current list of certified SLBE-ELBE firms and information for completing the GFE submittal can be found on the City's EOC Department website:
<http://www.sandiego.gov/eoc/programs/slbe>
7. These requirements may be waived, at the City's sole discretion, on projects deemed inappropriate for subcontracting participation.

B.

DEFINITIONS.

1. The following definitions shall be used in conjunction with these specifications:

- a) **Bid Discount** – Additional inducements or enhancements in the bidding process that are designed to increase the chances for the selection of SLBE firms in competition with other firms.
- b) **Commercially Useful Function** – An SLBE-ELBE performs a commercially useful function when it is responsible for the execution of the Work and is carrying out its responsibilities by actually performing, managing, and supervising the Work involved. To perform a commercially useful function, the SLBE-ELBE shall also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quantity and quality, ordering the material, and installing (where applicable) and paying for the material itself.

To determine whether an SLBE-ELBE is performing a commercially useful function, an evaluation will be performed of the amount of Work subcontracted, normal industry practices, whether the amount the SLBE-ELBE firm is to be paid under the contract is commensurate with the Work it is actually performing and the SLBE-ELBE credit claimed for its performance of the Work, and other relevant factors. Specifically, an SLBE-ELBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of meaningful and useful SLBE-ELBE participation, when in similar transactions in which SLBE-ELBE firms do not participate, there is no such role performed.

- c) **Good Faith Efforts (GFE)** – Documentation of the Bidder's intent to comply with SLBE Program goals and procedures included in the City's SLBE Program, Instructions for Completing Good Faith Effort Submittal available from the City's EOCP website or the Contract Specialist.
- d) **Independently Owned, Managed, and Operated** – Ownership of a SLBE-ELBE firm shall be direct, independent, and by individuals only. Business firms that are owned by other businesses or by the principals or owners of other businesses that cannot themselves qualify under the SLBE-ELBE eligibility requirements shall not be eligible to participate in the Program. Moreover, the day-to-day management of the SLBE-ELBE firm shall be direct and independent of the influence of any other businesses that cannot themselves qualify under the SLBE-ELBE eligibility requirements.
- e) **Joint Venture** – An association of two or more persons or business entities that is formed for the single purpose of carrying out a single defined business enterprise for which purpose they combine their

capital, efforts, skills, knowledge, or property. Joint ventures shall be established by written agreement to qualify for this program.

- f) **Local Business Enterprise (“LBE”)** – A firm having a Principal Place of Business and a Significant Employment Presence in San Diego County, California that has been in operation for 12 consecutive months and a valid business tax certificate. This definition is subsumed within the definition of Small Local Business Enterprise.
- g) **Minor Construction Program** – A program developed for bidding exclusively among SLBE-ELBE Construction firms.
- h) **Principal Place of Business** – A location wherein a firm maintains a physical office and through which it obtains no less than 50% of its overall customers or sales dollars.
- i) **Protégé** – A firm that has been approved and is an active participant in the City’s Mentor-Protégé Program and that has signed the required program participation agreement and has been assigned a mentor.
- j) **Significant Employee Presence** – No less than 25% of a firm’s total number of employees are domiciled in San Diego County.

C. SUBCONTRACTOR PARTICIPATION.

- 1. For the purpose of satisfying subcontracting participation requirements, only 1st tier SLBE–ELBE Subcontractors will be recognized as participants in the Contract according to the following criteria:
 - a) For credit to be allowed toward a respective participation level, all listed SLBE-ELBE firms shall have been certified by the Bid due date.
 - b) The Subcontractor shall perform a commercially useful function for credit to be allowed toward subcontractor participation levels. The Subcontractor shall be required by you to be responsible for the execution of a distinct element of the Work and shall carry out its responsibility by actually performing and supervising its own workforce.
 - c) If the Bidder is seeking the recognition of materials, supplies, or both towards achieving any mandatory subcontracting participation level, the Bidder shall indicate on Form AA40 – Named Equipment/Material Supplier List with the Bid the following:
 - i. If the materials or supplies are obtained from a SLBE-ELBE manufacturer, the Bidder will receive 100% of the cost of the materials or supplies toward SLBE participation. For the purposes of counting SLBE-ELBE participation, a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the Contract and of the general character described by the specifications.

- ii. If the materials or supplies are obtained from a SLBE-ELBE supplier, the Bidder will receive 60% of the cost of the materials or supplies toward SLBE participation. For the purposes of counting SLBE-ELBE participation a Supplier is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a supplier, the firm shall be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a supplier in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business if the person both owns and operates distribution equipment for the products. Any supplementing of the suppliers' own distribution equipment shall be by a long-term lease agreement and shall not be on an ad hoc or contract-by-contract basis.
 - iii. If the materials or supplies are obtained from a SLBE-ELBE, which is neither a manufacturer nor a supplier, the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, fees or transportation charges for the delivery of materials or supplies required on a job site will be counted toward SLBE-ELBE participation, provided the fees are reasonable and not excessive as compared with fees customarily allowed for similar services. No portion of the cost of the materials and supplies themselves will be counted toward SLBE-ELBE participation.
- d) If the Bidder is seeking the recognition of SLBE-ELBE Trucking towards achieving any mandatory subcontracting participation level, the Bidder shall indicate it on Form AA35 - List of Subcontractors with the Bid. The following factors will be evaluated in determining the credit to be allowed toward the respective participation level:
- i. The SLBE-ELBE shall be responsible for the management and supervision of the entire trucking operation for which it is getting credit on a particular Contract and there shall not be a contrived arrangement for the purpose of counting SLBE-ELBE participation.
 - ii. The SLBE-ELBE shall itself own and operate at least 1 fully licensed, insured, and operational truck used on the Contract.

- iii. The SLBE-ELBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
- iv. The SLBE-ELBE may lease trucks from another SLBE-ELBE firm including an owner-operator who is certified as a SLBE-ELBE. The SLBE-ELBE who leases trucks from another SLBE-ELBE receives credit for the total value of the transportation services the lessee SLBE-ELBE provides on the contract.
- v. The SLBE-ELBE may also lease trucks from a non-SLBE-ELBE firm, including an owner-operator. The SLBE-ELBE who leases trucks from a non-SLBE-ELBE is entitled to credit for the total value of transportation services provided by non-SLBE-ELBE lessees not to exceed the value of transportation services provided by SLBE-ELBE owned trucks on the contract. Additional participation by non-SLBE-ELBE lessees receive credit only for the fee or commission it receives as a result of the lease arrangement.
- vi. A lease shall indicate that the SLBE-ELBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the SLBE-ELBE so long as the lease gives the SLBE-ELBE absolute priority for use of the leased truck.

D. SLBE-ELBE SUBCONTRACTOR PARTICIPATION PERCENTAGES.

1. Contracts valued at \$1,500,000 and above will be considered Major Public Works Contracts and will include a mandatory Subcontractor participation requirement for SLBE-ELBE firms.
 - a) The Bidder shall achieve the mandatory Subcontractor participation requirement or demonstrate GFE.
 - b) The Bidders shall indicate the participation on Forms AA35 - List of Subcontractors and AA40 - Named Equipment/Material Supplier List as applicable regardless of the dollar value.
 - c) An SLBE-ELBE Bidder may count its own participation toward achieving the mandatory goal as long as the SLBE-ELBE Bidder performs 51% of the Contract Price.
2. Contracts Valued over \$1,000,000 and under \$1,500,000 will also be considered Major Public Works Contracts and will include the mandatory subcontractor participation requirements described above and the following:
 - a) 5% bid discount for SLBE-ELBE firms.
 - b) Non-certified Contractor will receive 5% bid discount if they achieve the specified mandatory Subcontracting participations.

- c) Bid discounts shall not apply if the award will result in a total contract cost of \$50,000 in excess of the apparent lowest Bid.
 - d) In the event of a tie bid between a SLBE-ELBE Bidder and a non-SLBE-ELBE Bidder, the SLBE-ELBE Bidder will be awarded the Contract.
 - e) In the event of a tie bid between a discounted Bid and a non-discounted Bid, the discounted Bid will be awarded the Contract.
- 3. Contracts valued over \$500,000 up to \$1,000,000 will be considered Minor Public Works Contracts and will be awarded through a competitive Bid process open only to City certified SLBE-ELBE firms. If there are no bidders or no responsible bidders, the Contract will be made available to all Bidders and will be subject to requirements listed in items 1 and 2 for Major Public Works Contracts above.
 - 4. Contracts valued at \$500,000 and below will also be considered Minor Public Works Contracts and will be awarded through a competitive bid process open only to City certified ELBEs unless there are less than 2 firms available at which it will be awarded through a competitive process open only to the City certified SLBE-ELBE firms. If there are no bidders or no responsible bidders, the Contract will be made available to all Bidders and subject to requirements listed in items 1 and 2 for Major Public Works Contracts above.

E. JOINT VENTURES.

- 1. The City may allow for Joint Venture bid discounts on some Contracts. Contracts that allow for Joint Venture bid discounts will be designated in Bid documents. A firm that is bidding or competing for City Contracts may partner with a certified SLBE or ELBE to compete for Contracts as a Joint Venture.
- 2. A Joint Venture shall be between two entities with the same discipline or license as required by the City. Joint ventures will receive bid discounts depending on the SLBE or ELBE percentage of participation. To be eligible for a discount, a Joint Venture Agreement shall be approved by the City at the time of Bid submittal. The maximum allowable discount shall be 5%. The parties shall agree to enter in the relationship for the life of the projects.
- 3. Joint Venture shall submit a Joint Venture Management Plan, a Joint Venture Agreement, or both at least 2 weeks prior to the Bid due date. Copies of the Joint Venture applications are available upon request to the Contract Specialist. Each agreement or management plan shall include the following:
 - a) Detailed explanation of the financial contribution for each partner.
 - b) List of personnel and equipment used by each partner.
 - c) Detailed breakdown of the responsibilities of each partner.
 - d) Explanation of how the profits and losses will be distributed.
 - e) Description of the bonding capacity of each partner.
 - f) Management or incentive fees available for any one of the partners (if any).

4. Each Joint Venture partner shall perform a Commercially Useful Function. An SLBE or ELBE that relies on the resources and personnel of a non-SLBE or ELBE firm will not be deemed to perform a Commercially Useful Function.
5. Each Joint Venture partner shall possess licenses appropriate for the discipline for which a proposal is being submitted. If a Joint Venture is bidding on a single trade project, at the time of bid submittal, each Joint Venture partner shall possess the requisite specialty license for that trade bid.
6. The SLBE or ELBE partner shall clearly define the portion of the Work to be performed. This Work shall be of the similar type of Work the SLBE or ELBE partner performs in the normal course of its business. The Joint Venture Participation Form shall specify the Bid items to be performed by each individual Joint Venture partner. Lump sum Joint Venture participation shall not be acceptable.
7. Responsibilities of the SLBE or ELBE Joint Venture Partner:
 - a) The SLBE or ELBE partner shall share in the control, management responsibilities, risks and profits of the Joint Venture in proportion with the level of participation in the project.
 - b) The SLBE or ELBE partner shall perform Work that is commensurate with its experience.
 - c) The SLBE or ELBE partner shall use its own employees and equipment to perform its portion of the Work.
 - d) The Joint Venture as a whole shall perform Bid items that equal or exceed 50% of the Contract Price, excluding the cost of manufactured items, in order to be eligible for a Joint Venture discount.

F. MAINTAINING PARTICIPATION LEVELS.

1. Credit and preference points are earned based on the level of participation proposed prior to the award of the Contract. Once the Project begins you shall achieve and maintain the SLBE-ELBE participation levels for which credit and preference points were earned. You shall maintain the SLBE-ELBE percentages indicated at the Award of Contract and throughout the Contract Time.
2. If the City modifies the original Scope of Work, you shall make reasonable efforts to maintain the SLBE-ELBE participation for which creditor preference points were earned. If participation levels will be reduced, approval shall be received from the City prior to making changes.
3. You shall notify and obtain written approval from the City in advance of any reduction in subcontract scope, termination, or substitution for a designated SLBE-ELBE Subcontractor. Failure to do so shall constitute a material breach of the Contract.
4. If you fail to maintain the SLBE-ELBE participation listed at the time the Contract is awarded and have not received prior approval from the City, the

City may declare you in default and will be considered grounds for debarment under Chapter 2, Article 2, Division 8, of the San Diego Municipal Code.

G. SUBCONTRACTING EFFORTS REVIEW AND EVALUATION.

1. Documentation of your subcontracting efforts will be reviewed by EOCP to verify that you made subcontracting opportunities available to a broad base of qualified Subcontractors, negotiated in good faith with interested Subcontractors, and did not reject any bid for unlawful discriminatory reasons. The EOCP review is based on the federal “Six Good Faith Efforts” model.
2. The GFEs are required methods to ensure that all ELBE and SLBE firms have had the opportunity to compete for the City’s Public Works procurements. The Six Good Faith Efforts, also known as affirmative steps, attract and utilize ELBE and SLBE firms:
 - a) Ensure ELBE firms are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities.
 - b) Make information of forthcoming opportunities available to SLBE-ELBE firms and arrange time for Contracts and establish delivery schedules, where requirements permit, in a way that encourages and facilitates participation by SLBE-ELBE firms in the competitive process. This includes posting solicitations for Bids or proposals to SLBE-ELBE firms for a minimum of 10 Working Days before the Bid or Proposal due date.
 - c) Consider in the contracting process whether firms competing for large Contracts could subcontract with SLBE-ELBE firms.
 - d) Encourage contracting with a consortium of ELBE-SLBE firms when a Contract is too large for one of these firms to handle individually.
 - e) Use the services and assistance of the City’s EOC Office and the SLBE-ELBE Directory.
 - f) If you award subcontracts, require your Subcontractors to take the steps listed above.

H. GOOD FAITH EFFORT DOCUMENTATION.

1. If the specified SLBE-ELBE Subcontractor participation percentages are not met, you shall submit information necessary to establish that adequate GFEs were taken to meet the Contract Subcontractor participation percentages. See the City’s document titled “Small Local Business (SLBE) Program, INSTRUCTIONS FOR BIDDERS COMPLETING THE GOOD FAITH EFFORT SUBMITTAL.” The instructions for completing the good faith effort submittal can be found on the City’s website:

<https://www.sandiego.gov/sites/default/files/legacy/eoc/pdf/slbegfeinst.pdf>

I. SUBCONTRACTOR SUBSTITUTION.

1. Evidence of fraud or discrimination in the substitution of Subcontractors will result in sanctions including assessment of penalty fines, termination of Contract, or debarment. This section does not replace applicable California Public Contract Code.

J. FALSIFICATION OF SUB-AGREEMENT AND FRAUD.

1. Falsification or misrepresentation of a sub-agreement as to company name, Contract amount or actual Work performed by Subcontractors, or any falsification or fraud on the part your submission of documentation and forms pursuant to this program, will result in sanctions against you including assessment of penalty fines, termination of the Contract, or debarment. Instances of falsification or fraud which are indicative of an attempt by you to avoid subcontracting with certain categories of Subcontractors on the basis of race, gender, gender expression, gender identity, religion, national origin, ethnicity, sexual orientation, age, or disability shall be referred to the Equal Opportunity Contracting Program's Investigative Unit for possible violations of Article 2, Division 35 of the City Administrative Code, §§22.3501 et seq. (Nondiscrimination in Contracting).

K. RESOURCES.

1. The current list of certified SLBE-ELBE firms and information for completing the GFE submittal can be found on the City's EOC Department website:
<http://www.sandiego.gov/eoc/programs/slbe>
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ATTACHMENT D
PREVAILING WAGE

PREVAILING WAGE

1. **PREVAILING WAGE RATES:** Pursuant to San Diego Municipal Code section 22.3019, construction, alteration, demolition, repair and maintenance work performed under this Contract is subject to State prevailing wage laws. For construction work performed under this Contract cumulatively exceeding \$25,000 and for alteration, demolition, repair and maintenance work performed under this Contract cumulatively exceeding \$15,000, the Contractor and its subcontractors shall comply with State prevailing wage laws including, but not limited to, the requirements listed below.
 - 1.1. **Compliance with Prevailing Wage Requirements.** Pursuant to sections 1720 through 1861 of the California Labor Code, the Contractor and its subcontractors shall ensure that all workers who perform work under this Contract are paid not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations (DIR). This includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.
 - 1.1.1. Copies of such prevailing rate of per diem wages are on file at the City and are available for inspection to any interested party on request. Copies of the prevailing rate of per diem wages also may be found at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>. Contractor and its subcontractors shall post a copy of the prevailing rate of per diem wages determination at each job site and shall make them available to any interested party upon request.
 - 1.1.2. The wage rates determined by the DIR refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, then the published rate of wage shall be in effect for the life of this Contract. If the published wage rate refers to a predetermined wage rate to become effective upon expiration of the published wage rate and the predetermined wage rate is on file with the DIR, such predetermined wage rate shall become effective on the date following the expiration date and shall apply to this Contract in the same manner as if it had been published in said publication. If the predetermined wage rate refers to one or more additional expiration dates with additional predetermined wage rates, which expiration dates occur during the life of this Contract, each successive predetermined wage rate shall apply to this Contract on the date following the expiration date of the previous wage rate. If the last of such predetermined wage rates expires during the life of this Contract, such wage rate shall apply to the balance of the Contract.
 - 1.2. **Penalties for Violations.** Contractor and its subcontractors shall comply with California Labor Code section 1775 in the event a worker is paid less than the prevailing wage rate for the work or craft in which the worker is employed. This shall be in addition to any other applicable penalties allowed under Labor Code sections 1720 – 1861.

- 1.3. Payroll Records.** Contractor and its subcontractors shall comply with California Labor Code section 1776, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require its subcontractors to also comply with section 1776. Contractor and its subcontractors shall submit weekly certified payroll records online via the City's web-based Labor Compliance Program. Contractor is responsible for ensuring its subcontractors submit certified payroll records to the City.
- 1.3.1.** Contractor and their subcontractors shall also furnish records specified in Labor Code section 1776 directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.
- 1.4. Apprentices.** Contractor and its subcontractors shall comply with California Labor Code sections 1777.5, 1777.6 and 1777.7 concerning the employment and wages of apprentices. Contractor is held responsible for the compliance of their subcontractors with sections 1777.5, 1777.6 and 1777.7.
- 1.5. Working Hours.** Contractor and their subcontractors shall comply with California Labor Code sections 1810 through 1815, including but not limited to: (i) restrict working hours on public works contracts to eight hours a day and forty hours a week, unless all hours worked in excess of 8 hours per day are compensated at not less than 1½ times the basic rate of pay; and (ii) specify penalties to be imposed on contractors and subcontractors of \$25 per worker per day for each day the worker works more than 8 hours per day and 40 hours per week in violation of California Labor Code sections 1810 through 1815.
- 1.6. Required Provisions for Subcontracts.** Contractor shall include at a minimum a copy of the following provisions in any contract they enter into with a subcontractor: California Labor Code sections 1771, 1771.1, 1775, 1776, 1777.5, 1810, 1813, 1815, 1860 and 1861.
- 1.7. Labor Code Section 1861 Certification.** Contractor in accordance with California Labor Code section 3700 is required to secure the payment of compensation of its employees and by signing this Contract, Contractor certifies that "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract."
- 1.8. Labor Compliance Program.** The City has its own Labor Compliance Program authorized in August 2011 by the DIR. The City will withhold contract payments when payroll records are delinquent or deemed inadequate by the City or other governmental entity, or it has been established after an investigation by the City or other governmental entity that underpayment(s) have occurred. For questions or assistance, please contact the City of San Diego's Prevailing Wage Unit at PWDPprevailingWage@sandiego.gov.

- 1.9. Contractor and Subcontractor Registration Requirements.** This project is subject to compliance monitoring and enforcement by the DIR. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid or proposal, subject to the requirements of section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Labor Code section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.
- 1.9.1.** A Contractor's inadvertent error in listing a subcontractor who is not registered pursuant to Labor Code section 1725.5 in response to a solicitation shall not be grounds for filing a bid protest or grounds for considering the bid non-responsive provided that any of the following apply: (1) the subcontractor is registered prior to bid opening; (2) within twenty-four hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in Labor Code section 1725.5; or (3) the subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
- 1.9.2.** By submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the DIR in compliance with Labor Code sections 1771.1 and 1725.5, and Contractor shall provide proof of registration for themselves and all listed subcontractors to the City at the time of bid or proposal due date or upon request.
- 1.10. Stop Order.** For Contractor or its subcontractors engaging in the performance of any public work contract without having been registered in violation of Labor Code sections 1725.5 or 1771.1, the Labor Commissioner shall issue and serve a stop order prohibiting the use of the unregistered contractors or unregistered subcontractor(s) on ALL public works until the unregistered contractor or unregistered subcontractor(s) is registered. Failure to observe a stop order is a misdemeanor.
- 1.11. List of all Subcontractors.** The Contractor shall provide the list of subcontractors (regardless of tier), along with their DIR registration numbers, utilized on this Contract prior to any work being performed; and the Contractor shall provide a complete list of all subcontractors with each invoice. Additionally, Contractor shall provide the City with a complete list of all subcontractors (regardless of tier) utilized on this contract within ten working days of the completion of the contract, along with their DIR registration numbers. The City shall withhold final payment to Construction Management Professional until at least thirty (30) days after this information is provided to the City.

1.12. Exemptions for Small Projects. There are limited exemptions for installation, alteration, demolition, or repair work done on projects of \$25,000 or less. The Contractor shall still comply with Labor Code sections 1720 et. seq. The only recognized exemptions are listed below:

1.12.1. Registration. The Contractor will not be required to register with the DIR for small projects. (Labor Code section 1771.1).

1.12.2. Certified Payroll Records. The records required in Labor Code section 1776 shall be required to be kept and submitted to the City of San Diego, but will not be required to be submitted online with the DIR directly. The Contractor will need to keep those records for at least three years following the completion of the Contract. (Labor Code section 1771.4).

1.12.3. List of all Subcontractors. The Contractor shall not be required to hire only registered subcontractors and is exempt from submitting the list of all subcontractors that is required in section 1.11. above. (Labor code section 1773.3).

ATTACHMENT E
SUPPLEMENTARY SPECIAL PROVISIONS

SUPPLEMENTARY SPECIAL PROVISIONS

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

1. The **2021 Edition** of the Standard Specifications for Public Works Construction (The "GREENBOOK").
2. The **2021 Edition** of the City of San Diego Standard Specifications for Public Works Construction (The "WHITEBOOK"), including the following:
 - a) General Provisions (A) for all Construction Contracts.

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

1-2 TERMS AND DEFINITIONS. To the "WHITEBOOK":

To item 47, "Holiday", ADD the following:

Holiday	Observed On
Juneteenth	June 19

To item 55, "Normal Working Hours", DELETE in its entirety and SUBSTITUTE with the following:

Normal Working Hours: Normal Working Hours shall be **7:00 AM to 5:00 PM, Monday through Friday**, inclusive. Saturdays, Sundays, and City Holidays are excluded. Unless otherwise specified on the Traffic Control Permits.

SECTION 3 – CONTROL OF THE WORK

3-2 SELF-PERFORMANCE. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. The self performance percentage requirement will be waived for Prime Contractors meeting the Class B License requirement of this Contract.

3-4 AUTHORITY OF THE BOARD AND THE ENGINEER. To the "WHITEBOOK", ADD the following:

4. See **Appendix N - Sample Contractor Performance Evaluation (CPE) Forms.**

3-7.6.1 Use of Computer Aided Drafting and Design. To the "WHITEBOOK", Item 1, DELETE in its entirety and SUBSTITUTE the following:

1. Use AutoCAD for the preparation of Plans and As-Built drawings in accordance with the City's CADD Standards.

SECTION 4 - CONTROL OF MATERIALS

ADD:

4-6

TRADE NAMES. To the "WHITEBOOK", ADD the following:

11. You shall submit your list of proposed substitutions for an "equal" item **no later than 5 Working Days after the issuance of the Notice of Intent to Award** and on the City's Product Submittal Form available at:

<https://www.sandiego.gov/ecp/edocref/>

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

5-3.3

Payroll Records. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. You and your Subcontractors shall submit weekly certified payrolls, including a Statement of Compliance signed under penalty of perjury, reflecting the wages of all employees engaged in the Work, utilizing the City's designated web-based contract and labor compliance software.
2. You and your Subcontractors shall submit the following Labor Compliance required documents to the OLSE;
 - a) City of San Diego Labor Compliance Authorized Signatory Form;
 - b) City of San Diego List of Trades and Crafts;
 - c) Labor Compliance Checklist;
 - d) Fringe Benefit Statement;
 - e) DAS 140 Form & Transmittal Confirmation;
 - f) DAS 142 & Transmittal Confirmation;
 - g) State & Federal Apprentice Certifications;
 - h) Payroll Confirmations (as requested per CCR 16432); and

- i) Other Deduction Forms (letter or documentation relating to nonstandard deductions);
3. You and your Subcontractors shall submit the following PLA and Labor Compliance required documents utilizing the City's designated web-based contract and labor compliance software program:
- a) Letter of Assent (PLA Attachment B);
 - b) Workforce Dispatch Request Form;
 - c) Contractor Core Workforce Form [if required];
 - d) Monthly Proof of Fringe Benefit Payments to Union Trust;
 - e) Certified Payroll Report (Performance Report with Statement of Compliance, Non-Performance Reports);
 - f) Jobs Coordinator Designation Form; and
 - g) For all dispatched workers, identify the following: race, ethnicity, gender, permanent residence zip code, construction project hours worked, apprenticeship program affiliation, trade classification, and union affiliation.

5-4 INSURANCE. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

5-4 INSURANCE.

- 1. The insurance provisions herein shall not be construed to limit your indemnity and defense duties set forth in the Contract.

5-4.1 Policies and Procedures.

- 1. You shall procure the insurance described below, at your sole cost and expense, to provide coverage against claims for loss including injuries to persons or damage to property, which may arise out of or in connection with the performance of the Work by you, your agents, representatives, officers, employees or Subcontractors.
- 2. Insurance coverage for property damage resulting from your operations is on a replacement cost valuation. The market value will not be accepted.
- 3. You shall maintain this insurance as required by this Contract and at all times thereafter when you are correcting, removing, or replacing Work in accordance with this Contract. Your duties under the Contract, including your indemnity obligations, are not limited to the insurance coverage required by this Contract.

4. If you maintain broader coverage or higher limits than the minimums shown below, City requires and shall be entitled to the broader coverage or the higher limits maintained by you. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to City.
5. Your payment for insurance shall be included in the Contract Price you bid. You are not entitled to any additional payment from the City to cover your insurance, unless the City specifically agrees to payment in writing. Do not begin any Work under this Contract or allow any Subcontractors to begin work, until you have provided, and the City has approved, all required insurance.
6. Policies of insurance shall provide that the City is entitled to 30 days advance written notice of cancellation or non-renewal of the policy or 10 days advance written notice for cancellation due to non-payment of premium. Maintenance of specified insurance coverage is a material element of the Contract. Your failure to maintain or renew coverage and to provide evidence of renewal during the term of the Contract may be treated by the City as a material breach of the Contract.

5-4.2 Types of Insurance.

5-4.2.1 General Liability Insurance.

1. Commercial General Liability Insurance shall be written on the current version of the ISO Occurrence form CG 00 01 07 98 or an equivalent form providing coverage at least as broad.
2. The policy shall cover liability arising from premises and operations, XCU (explosions, underground, and collapse), independent contractors, products/completed operations, personal injury and advertising injury, bodily injury, property damage, and liability assumed under an insured's contract (including the tort liability of another assumed in a business contract).
3. There shall be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You shall maintain the same or equivalent insurance for at least 10 years following completion of the Work.
4. All costs of defense shall be outside the policy limits. Policy coverage shall be in liability limits of not less than the following:

<u>General Annual Aggregate Limit</u>	<u>Limits of Liability</u>
Other than Products/Completed Operations	\$10,000,000
Products/Completed Operations Aggregate Limit	\$10,000,000
Personal Injury Limit	\$5,000,000
Each Occurrence	\$5,000,000

5-4.2.2 Commercial Automobile Liability Insurance.

1. You shall provide a policy or policies of Commercial Automobile Liability Insurance written on the current version of the ISO form CA 00 01 12 90 or later version or equivalent form providing coverage at least as broad in the amount of \$1,000,000 combined single limit per accident, covering bodily injury and property damage for owned, non-owned, and hired automobiles ("Any Auto").
2. All costs of defense shall be outside the limits of the policy.

5-4.2.3 Workers' Compensation Insurance and Employers Liability Insurance.

1. In accordance with the provisions of California Labor Code section 3700, you shall provide, at your expense, Workers' Compensation Insurance and Employers Liability Insurance to protect you against all claims under applicable state workers' compensation laws. The City, its elected officials, and employees will not be responsible for any claims in law or equity occasioned by your failure to comply with this requirement.
2. Statutory Limits shall be provided for Workers' Compensation Insurance as required by the state of California, and Employer's Liability Insurance with limits of no less than \$1,000,000 per accident for bodily injury or disease.
3. By signing and returning the Contract, you certify that you are aware of the provisions of California's Workers' Compensation laws, including Labor Code section 3700, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance, and that you will comply with these provisions before commencing the Work.

5-4.2.4 Contractors Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain Contractors Pollution Liability Insurance applicable to the Work being performed, with a limit no less than \$2,000,000 per claim or occurrence and \$4,000,000 aggregate per policy period of one year.
2. All costs of defense shall be outside the limits of the policy.
3. You shall obtain written approval from the City for any insurance provided by your Subcontractor instead of you.
4. For approval of a substitution of your Subcontractor's insurance, you shall certify that all activities for which the Contractors Pollution Liability Insurance will provide coverage will be performed exclusively by the Subcontractor providing the insurance. The deductible shall not exceed \$25,000 per claim unless the City has provided prior, written approval.

5. Occurrence based policies shall be procured before the Work commences. Claims Made policies shall be procured before the Work commences, shall be maintained for the Contract Time, and shall include a 12-month extended Claims Discovery Period applicable to this contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work without advancing the retroactive date.

5-4.2.5 Contractors Hazardous Transporters Pollution Liability Insurance.

1. You shall procure and maintain at your expense or require your Subcontractor, as described below, to procure and maintain Contractors Hazardous Transporters Pollution Liability Insurance, including contractual liability coverage to cover liability arising out of transportation of hazardous or toxic, materials, substances, or any other pollutants by you or any Subcontractor in an amount no less than \$2,000,000 limit per occurrence and \$4,000,000 aggregate per policy period of one year.
2. All costs of defense shall be outside the limits of the policy.
3. You shall obtain written approval from the City from any insurance provided by a Subcontractor instead of you.
4. To obtain City approval of a Subcontractor's insurance coverage in lieu of the Contractor's insurance, the Contractor shall certify that all activities under the Contractor's Hazardous Transporters Pollution Liability Insurance will be performed exclusively by the Subcontractor providing the insurance. The deductible shall not exceed \$25,000 per claim without prior approval of the City.
5. Occurrence based policies shall be procured before the Work commences. Claims Made policies shall be procured before the Work commences, shall be maintained for the duration of this contract, and shall include a 12-month extended Claims Discovery Period applicable to this Contract or the existing policy or policies that shall continue to be maintained for 12 months after the completion of the Work under this Contract without advancing the retroactive date.

5-4.2.6 Contractors Builders Risk Property Insurance.

1. You shall provide at your expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance shall be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation) including the cost of excavations, grading, and filling. The policy or policies limits shall be 100 percent of the value of the Work under this Contract, plus 15 percent to cover administrative costs, design costs, and the costs of inspections and construction management.

2. Insured property shall include material or portions of the Work located away from the Site but intended for use at the Site and shall cover material or portions of the Work in transit. The policy or policies shall include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies shall cover the cost of removing debris, including demolition.
3. The policy or policies shall provide that all proceeds shall be payable to the City as Trustee for the insured, and shall name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. The City, as Trustee, will collect, adjust, and receive all monies that become due and payable under the policy or policies, may compromise any and all claims, and will apply the proceeds of this insurance to the repair, reconstruction, or replacement of the Work.
4. Any deductible applicable to the insurance shall be identified in the policy or policies documents. The responsibility for paying the part of any loss not covered because of the deductibles shall be apportioned among the parties, except for the City, as follows: if there is more than one claimant for a single occurrence, then each claimant shall pay a pro-rata share of the per occurrence deductible based upon the percentage of their paid claim to the total paid for insured. The City shall be entitled to 100 percent of its loss. You shall pay the City any portion of the loss not covered because of a deductible; at the same time the proceeds of the insurance are paid to the City as Trustee.
5. Any insured, other than the City, making claim to which a deductible applies shall be responsible for 100 percent of the loss not insured because of the deductible.

5-4.3 Rating Requirements. Except for the State Compensation Insurance Fund, all insurance required by this Contract shall be carried only by responsible insurance companies with a rating of, or equivalent to, at least "A-, VI" by A.M. Best Company, that are authorized by the California Insurance Commissioner to do business in the state of California, and that have been approved by the City.

5-4.3.1 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 of California and is included on the List of Approved Surplus Lines Insurers (LASLI list).

All policies of insurance carried by non-admitted carriers shall be subject to all of the requirements for policies of insurance provided by admitted carriers described in this Contract.

5-4.4 Evidence of Insurance. You shall furnish the City with original Certificates of Insurance, including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause), prior to your commencement of Work under this Contract. In addition, The City reserves the right

to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

5-4.5 Policy Endorsements.

5-4.5.1 Commercial General Liability Insurance.

5-4.5.1.1 Additional Insured. To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

1. Ongoing operations performed by you or on your behalf,
2. your products,
3. your work, e.g., your completed operations performed by you on your behalf, or
4. premises owned, leased, controlled, or used by you.

5-4.5.1.2 Primary and Non-Contributory Coverage. The policy shall be endorsed to provide that the coverage with respect to operations, including the completed operations, if appropriate, of the Named Insured is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives. Further, it shall provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

5-4.5.1.3 Project General Aggregate Limit. The policy or policies shall be endorsed to provide a Designated Construction Project General Aggregate Limit that will apply only to the Work. Only claims payments which arise from the Work shall reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit shall be in addition to the aggregate limit provided for the products-completed operations hazard.

5-4.5.2 Workers' Compensation Insurance and Employers Liability Insurance.

5-4.5.2.1 Waiver of Subrogation. The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from Work performed by the Named Insured for the City.

5-4.5.3 Contractors Pollution Liability Insurance Endorsements.

5-4.5.3.1 Additional Insured. To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

1. Ongoing operations performed by you or on your behalf,
2. your products,
3. your work, e.g., your completed operations performed by you on your behalf, or
4. premises owned, leased, controlled, or used by you.

5-4.5.3.2 Primary and Non-Contributory Coverage. The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.

5-4.5.3.3 Severability of Interest. For Contractors Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability and shall provide cross-liability coverage.

5-4.5.4 Contractors Hazardous Transporters Pollution Liability Insurance Endorsements.

5-4.5.4.1 Additional Insured. To the fullest extent permitted by law and consistent with the limiting provisions set forth at California Civil Code section 2782, California Insurance Code section 11580.04, and any applicable successor statutes limiting indemnification of public agencies that bind the City, the policy or policies shall be endorsed to include as an Additional Insured the City and its respective elected officials, officers, employees, agents, and representatives, with respect to liability arising out of:

1. Ongoing operations performed by you or on your behalf,
2. your products,
3. your work, e.g., your completed operations performed by you on your behalf, or
4. premises owned, leased, controlled, or used by you.

- 5-4.5.4.2 Primary and Non-Contributory Coverage.** The policy or policies shall be endorsed to provide that the insurance afforded by the Contractors Pollution Liability Insurance policy or policies is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives with respect to operations including the completed operations of the Named Insured. Any insurance maintained by the City and its elected officials, officers, employees, agents and representatives shall be in excess of your insurance and shall not contribute to it.
- 5-4.5.4.3 Severability of Interest.** For Contractors Hazardous Transporters Pollution Liability Insurance, the policy or policies shall provide that your insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability, and shall provide cross-liability coverage.
- 5-4.5.5 Builders Risk Endorsements.**
- 5-4.5.5.1 Waiver of Subrogation.** The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and that arise from Work performed by the Named Insured for the City.
- 5-4.5.5.2 Builders Risk – Partial Utilization.** If the City desires to occupy or use a portion or portions of the Work prior to Acceptance,, the City will notify you, and you shall immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies shall not be cancelled or lapse on account of any use or occupancy. You shall obtain the endorsement prior to the City's occupation and use.
- 5-4.6 Deductibles and Self-Insured Retentions.** You shall disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided. The City may require you to purchase coverage with a lower retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City.
- 5-4.7 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.
- 5-4.8 Notice of Changes to Insurance.** You shall notify the City, in writing, 30 days prior to any material change to the policies of insurance provided under this Contract. This written notice is in addition to the requirements of paragraph 6 of Section 5-4.1.
- 5-4.9 Excess Insurance.** Policies providing excess coverage shall follow the form of the primary policy or policies, including, all endorsements.

5-7.1.4 Emergency Drills. To the "WHITEBOOK", Item 1, ADD the following

- a) You shall participate in the City's initiated emergency drills.

5-10.2.1 Public Notice by Contractor. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

5-10.2.1 Public Notice by Contractor.

1. Post Project Identification Signs in accordance with 3-11.2, "Project Identification Signs".
2. No less than 5 and no more than 10 Working Days in advance of Project construction activities and utility service interruptions, you shall notify all critical facilities, businesses, institutions, property owners, residents, or any other impacted stakeholders within a minimum 300-foot (90 m) radius of the Project i.e., work area and any other affected areas as shown on the "Notification of Planned Water Shutdown" when you perform the Work.
3. The notification process must be repeated for delays and long pauses in construction activities. Verbal and written notifications, such as door hangers, shall be sent to critical facilities (including but not limited to police stations, fire stations, hospitals, and schools). A copy of written notifications sent to any critical facility shall also be sent to the Engineer.
4. You shall keep records of the people contacted, along with the dates of notification, and shall provide the record e.g., time-stamped pictures of the notices, to the Engineer upon request. You shall identify all other critical facilities that need to be notified.
5. Verbal and written notifications shall also include specific impacts from the construction of the City facilities, e.g., fire hydrants, air vacuum and blow-off devices, pedestrian ramps, and sidewalks, e.g., the loss of parking, access, and impact to private property, e.g., landscaping.
6. Furnish and distribute public notices in the form of door hangers using the City's format to all occupants and/or property owners along streets and all critical facilities such as police stations, fire stations, hospitals, and schools.
7. Where Work is to be performed at least 5 and at most 10 Working Days before starting construction, survey activities, or impacting the community as approved by the Engineer.
8. Within 5 Working Days of the completion or pausing of your construction activities where Work was performed, you shall distribute public notices in the form of door hangers, which outline the anticipated dates of Asphalt Resurfacing, Slurry Seal, Sidewalk, or Curb Ramp Work. Upon resuming construction activities, you shall redistribute door hangers.

9. "No Parking" signs shall be placed 72 hours before the scheduled construction activities and must include the name and phone number of the Contractor. The Contractor shall document the placement of the signs with time-stamped pictures.
10. Leave the door hanger notices on or at the front door of each dwelling and apartment unit and at each commercial building tenant abutting each street block segment.
11. Where the front doors of apartment units are inaccessible or occupants are unavailable, distribute the door hanger notices to the apartment manager or security officer and leave your contact information, such as business cards.
12. Provide time-stamped pictures of the notices to the Engineer.
13. Door Hanger Material: You shall use Blanks/USA brand, Item Number DHJ5B6WH, 1¼ inch (31.8 mm) Holes (removed), 2-up Jumbo Door Hanger in Bristol White, or approved equal.
14. Door hangers shall include the funding source if project is funded in part by State Gas Tax Revenue (SB1).
15. Mailed Notice Material: You shall use Cougar by Domtar, Item Number 2834, or approved equal.
16. For all Work on private property, contact each owner and occupant individually a minimum of 15 Working Days before the Work. If the Work has been delayed, re-notify owners and occupants of the new Work schedule, as directed by the Engineer.
17. A sample of public notices will be included in the Contract.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1.1 Construction Schedule. To the "WHITEBOOK", ADD the following:

3. Refer to the Sample City Invoice in **Appendix D – Sample City Invoice** and use the format shown.

ADD:

6-6.1.1 Environmental Document.

1. The City of San Diego has prepared a **Notice of Exemption** for **Air and Space Museum Roof Replacement**, Project No. **B-20116.02.06**, as referenced in the Contract Appendix. You shall comply with all requirements of the **Notice of Exemption** as set forth in **Appendix A**.
2. Compliance with the City's environmental document shall be included in the Contract Price, unless separate bid items have been provided.

6-9

LIQUIDATED DAMAGES. To the "WHITEBOOK", item 2, DELETE in its entirety and SUBSTITUTE with the following:

2. The execution of the Contract shall constitute agreement between you and the City that the liquidated damage amount described in the table below is the value of the damage caused by your failure to complete the Work within the allotted time. Such sum shall not be construed as a penalty and may be deducted from your payments if such delay occurs.

Contract Value	Liquidated Damages Daily Amount
Less than \$200,001	\$1,000
\$200,001 to \$500,000	\$1,500
\$500,001 to \$1,000,000	\$2,000
\$1,000,001 to \$2,000,000	\$2,500
\$2,000,001 to \$5,000,000	\$3,000
\$5,000,001 to \$10,000,000	\$5,500
\$10,000,001 to \$20,000,000	\$6,500
Greater Than \$20,000,000	\$7,000

SECTION 7 - MEASUREMENT AND PAYMENT

7-3.1

General. To the "WHITEBOOK", ADD the following:

4. The Lump Sum Bid item for "**Roof Demo**" shall include, and not be limited to, Demolition of upper and lower roof areas as specified in the Plans, Technical Specifications, and Contract Documents.
5. The Lump Sum Bid item for "**Main Building: New Roof Finish Including Full and Complete Installation of New 60MIL FB Single-ply Roofing System per**

Plans, Including All Flashings and Roof Penetrations” shall include, and not be limited to, full and complete installation of new 60MIL FB single-ply roofing system per plans, including all flashings and roof penetrations. The Lump Sum shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item. All work can be found as specified in the Plans, Technical Specifications, and Contract Documents.

6. The Square Footage Bid item for **“Rotunda: Existing Single Ply Roofing System: Repair, Prep, Prime and Apply New Polyurethane Top Coating”** shall include, and not be limited to, the repair, prep, priming and application of new polyurethane top coating to the existing single ply roofing system of the Rotunda as specified in the Plans, Technical Specifications, and Contract Documents. The Square Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item.
7. The Square Footage Bid item for **“Main Building and Rotunda: Remove and Replace Stucco Including Lath and Wood Framing Where Required per Plans (Inclusive of the Additional 10% of Repair Area)”** shall include, and not be limited to, the removal and replacement of cement plaster including lath and wood framing where required per plans, inclusive of the additional 10% of repair area, as specified in the Plans, Technical Specifications, and Contract Documents. The Square Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item.
8. The Square Footage Bid item for **“Main Building: Slurry Coat Repair of Stucco Cracks (30% of Stucco of Main Building)”** shall include, and not be limited to, Full and complete slurry coat repair of plaster cracks at the Main Building; this includes 30% of the stucco of the main building, and excludes the interior rotunda and museum exhibition spaces, and areas specifically called out for repairs in the plans. The Square Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.
9. The Lump Sum Bid item for **“Rotunda: Slurry Coat Repair of Stucco Cracks (100% of Stucco of Rotunda)”** shall include, and not be limited to, Full and complete slurry coat repair of plaster cracks at the Rotunda; this includes 100% of the stucco of the rotunda, and excludes the interior rotunda and museum

exhibition spaces, and areas specifically called out for repairs in the plans. The Lump Sum shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.

10. The Linear Footage Bid item for **“Main Building: Chip Out Cracks and Repair Stucco at Significant Cracking”** shall include, and not be limited to, chipping out cracks and repairing stucco at significant cracking at the Main Building. The Linear Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.
11. The Linear Footage Bid item for **“Rotunda: Chip Out Cracks and Repair Stucco at Significant Cracking”** shall include, and not be limited to, chipping out cracks and repairing stucco at significant cracking at the Rotunda. The Linear Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.
12. The Lump Sum Bid item for **“Prepare, Prime and Re-paint All Exterior Walls to Match Existing”** shall include, and not be limited to, the preparation, priming, and repainting of all exterior walls to match existing, as specified in the Plans, Technical Specifications, and Contract Documents.
13. The Lump Sum Bid item for **“Prepare, Prime and Re-paint All Window Framing, Main Entrance Doors, and Building Letter Signage”** shall include, and not be limited to, the preparation, priming, and repainting of all window framing, main entrance doors, and building letter signage, as specified in the Plans, Technical Specifications, and Contract Documents.
14. The Lump Sum Bid item for **“Prepare, Prime and Re-paint All Sheet Metal Coping”** shall include, and not be limited to, the preparation, priming, and repainting of all sheet metal coping, as specified in the Plans, Technical Specifications, and Contract Documents.
15. The Lump Sum Bid item for **“Prepare, Prime and Re-Paint All Steel Pipe Rail Systems and Columns”** shall include, and not be limited to, the preparation, priming, and repainting of all steel pipe rail systems and columns, as specified in the Plans, Technical Specifications, and Contract Documents.
16. The Per Unit Bid item for **“Remove/Replace Existing Sheet Metal Fin Segments, Approx. 8 Foot Long Each per Plans (Including Additional 10% Allowance)”** shall include, and not be limited to, the removal and replacement of existing sheet metal segments, approximately 8 foot long each per plans

(including additional 10% allowance). The Per Unit cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.

17. The Linear Footage Bid item for **“Repair/Replace Fin Joint Segments at Areas of Corrosion on Sheet Metal Fins”** shall include, and not be limited to, the removal and replacement of fin joint segments at areas of corrosion on sheet metal fins. The Linear Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections as required, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.
18. The Lump Sum Bid item for **“Prepare, Prime and Re-paint Fin Segments, Full and Complete; Remove Fin Covers Where Required; Repair Corrosion to Fin Covers Not Already Addressed in Bid Items 14 And 15; Repair/Replace Metal Angles and Brackets; Prepare, Prime and Paint”** shall include, and not be limited to: the preparation, priming, and repainting of all fin segments, full and complete; the removal of fin covers where required; repairing corrosion to fin covers not already addressed in bid items 14 and 15; repairing and replacing metal angles and brackets; and the preparation, priming, and repainting of metal angles, brackets, and fin covers. The Lump Sum shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.
19. The Lump Sum Bid item for **“HVAC Equipment Removal and Reinstallation Including New Metal Curb Cap with Flashing After Roof Installation”** shall include, and not be limited to, the full and complete removal and reinstallation of HVAC equipment, including new metal curb cap with flashing after roof installation, as specified in the Plans, Technical Specifications, and Contract Documents.
20. The Per Unit Bid item for **“Disconnect and Remove Neon Lighting Behind Fins, Retain Existing Lighting Circuits”** shall include, and not be limited to, disconnecting and removing neon lighting behind fins, while retaining existing lighting circuits, as specified in the Plans, Technical Specifications, and Contract Documents.
21. The Linear Footage Bid item for **“Full and Complete Installation of New Exterior Lighting Attached to Fin: Fixture Type SA, Color Changing LED Luminaire Including Cables, Connect to Existing Circuits, 72'-0" per Plans”** shall include, and not be limited to, the full and complete installation of new exterior lighting: fixture type SA, color changing LED luminaire including

cables, connecting to existing circuits, attached to 72'-0" fins per plans. The Linear Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents, including Appendix H – Proposed Light Fixture Catalog Cut Sheets.

22. The Linear Footage Bid item for **"Full and Complete Installation of New Exterior Lighting Attached to Building: Fixture Type SB, Color Changing LED Luminaire Including Cables, Connect to Existing Circuits per Plans"** shall include, and not be limited to, the full and complete installation of new exterior lighting: fixture type SA, color changing LED luminaire including cables, connecting to existing circuits, attached to the building per plans. The Linear Footage cost shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents, including Appendix H – Proposed Light Fixture Catalog Cut Sheets.
23. The Lump Sum Bid item for **"New lighting Control Processor Including Program"** shall include, and not be limited to, the full and complete installation of a new lighting control processor including program. The Lump Sum shall include full compensation for furnishing all labor, tools, materials, equipment, installation, specialty inspections, and other descriptions associated and applicable under this bid item, as specified in the Plans, Technical Specifications, and Contract Documents.
24. The Lump Sum Bid item for **"Hazardous Material Abatement"** shall include, and not be limited to, hazardous material abatement as specified in the Plans, Technical Specifications, and Contract Documents.
25. The Lump Sum Bid item for **"Roof Ladder; 20'-0" Tall"** shall include, and not be limited to, Removal of existing and installation of a new Roof ladder; 20'-0" tall, for lower roof access, as specified in the Plans, Technical Specifications, and Contract Documents.
26. The Lump Sum Bid item for **"Roof Ladder; 64'-0" Tall"** shall include, and not be limited to, Removal of existing and installation of a new Roof ladder; 64'-0" tall for upper roof access, as specified in the Plans, Technical Specifications, and Contract Documents.
27. The Lump Sum Bid item for **"Hoisting, Rigging and Scaffolding"** shall include, and not be limited to, Hoisting, rigging and scaffolding as specified in the Plans, Technical Specifications, and Contract Documents.

7-3.9

Field Orders. To the "WHITEBOOK", DELETE in its entirety and SUBSTITUTE with the following:

- 1. If the cumulative total of Field Order items of Work does not exceed the "**Field Orders**" Bid Item, the City shall pay those Field Orders as shown below:

**TABLE 7-3.9
FIELD ORDER LIMITS**

Contract Price	Maximum Each Field Order Work Amount
Less than \$1,000,001	\$10,000
\$1,000,001 to \$5,000,000	\$20,000
\$5,000,001 to \$10,000,000	\$25,000
\$10,000,001 to \$30,000,000	\$40,000
Greater than \$30,000,000	\$70,000

7-3.11

Compensation Adjustments for Price Index Fluctuations. To the "WHITEBOOK", ADD the following:

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

SECTION 402 – UTILITIES

402-2

PROTECTION. To the "WHITEBOOK", item 2, ADD the following:

- g) Refer to **Appendix G - Advanced Metering Infrastructure (AMI) Device Protection** for more information on the protection of AMI devices.

SECTION 1001 – CONSTRUCTION BEST MANAGEMENT PRACTICES (BMPs)

1001-1

GENERAL. To the "WHITEBOOK", ADD the following:

- 8. Based on a preliminary assessment by the City, this Contract is subject to Minor **WPCP**.

TECHNICALS

City of San Diego
AIR & SPACE MUSEUM ROOF REPLACEMENT
2001 Pan American Plaza, San Diego, CA 92101

100% TECHNICAL SPECIFICATIONS

10/8/2025

NOTE: WHERE THE PLANS AND SPECIFICATIONS REFERENCE "ARCHITECT," THE OWNER AND/OR THEIR DESIGNATED REPRESENTATIVE MAY ACT IN THAT CAPACITY.



**PLATT/WHITELAW
ARCHITECTS, INC.**

Division	Section Title
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TECHNICAL SPECIFICATIONS IN CSI FORMAT

DIVISION 01 – GENERAL REQUIREMENTS

01 33 00	SUBMITTAL PROCEDURES
01 45 00	QUALITY CONTROL
01 60 00	PRODUCT REQUIREMENTS
01 74 19	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
01 77 00	CLOSEOUT PROCEDURES

DIVISION 02 – EXISTING CONDITIONS

02 41 19	SELECTIVE DEMOLITION
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DIVISION 05 - METALS

05 51 33	METAL LADDERS
05 75 00	DECORATIVE FORMED METAL

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

06 10 00	ROUGH CARPENTRY
06 16 00	SHEATHING

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 01 50.16	MAINTENANCE CLEANING OF MEMBRANE ROOFING
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07 01 50.74	REHABILITATION OF SINGLE PLY ROOFING
07 54 16	KETONE ETHYLENE ESTER (KEE) ROOFING
07 62 00	SHEET METAL FLASHING AND TRIM
07 84 13	PENETRATION FIRESTOPPING
07 92 00	JOINT SEALANTS

DIVISION 09 - FINISHES

09 24 00	REPAIR OF HISTORIC STUCCO
09 91 13	EXTERIOR PAINTING
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09 96 00	HIGH PERFORMANCE COATINGS

DIVISION 22 - PLUMBING

22 13 19.13	SANITARY DRAINS
22 14 23	STORM DRAINAGE PIPING SPECIALTIES

DIVISION 26 - ELECTRICAL

26 00 10	SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL
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26 05 19	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS & CABLES
26 05 26	GROUNDING & BONDING FOR ELECTRICAL SYSTEMS
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26 05 33	RACEWAYS & BOXES FOR ELECTRICAL SYSTEMS
26 05 48.16	SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS
26 05 53	IDENTIFICATION FOR ELECTRICAL SYSTEMS
26 27 26	WIRING DEVICES
26 28 13	FUSES
26 28 16	ENCLOSED SWITCHES & CIRCUIT BREAKERS
26 56 19	LED EXTERIOR LIGHTING

END OF TABLE OF CONTENTS

SECTION 01 33 00 - SUBMITTAL PROCEDURES**PART 1 - GENERAL**

1.1 GENERAL

- A. See Green Book and Whitebook.

1.2 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings: (See also Volume 1 – Special Provisions and Green Book.).
1. Following Contractor's review and approval, submit shop drawings to the Architect for review.
 - a. Electronic (PDF format only) submittal transmitted via e-mail is preferred.
 - b. Shop drawings submitted electronically will be reviewed and returned electronically.
 2. Comments, if any, will be noted directly on the electronic copy or on a copy of the full sized scaled drawings on paper.
 3. The Contractor shall distribute the appropriate number of copies to the various Trades and to Contractor's job personnel as required.
- B. Product Data: Following Contractor's review and approval, submit to the Architect copies of Manufacturer's catalogs and brochures as required by the Specifications. Resubmit corrected copies for approval in accordance with original submittal.
- C. Samples:
1. Following Contractor's review and approval, submit to the Architect samples of materials in quantities and sizes as required by the Specifications.
 2. Submittals required other than for selection of color, texture, fabric or finish shall be given to the Architect at a time determined by the Contractor, which will allow for resubmittal and which will not cause and delay in the Work.
 3. Corrected samples shall be resubmitted for approval as per the original submittal.
- D. Color Selection: Submit to the Architect for approval, samples and appropriate information required for the selection of colors, textures, and finishes for the entire Project. Final selection of color, textures, or finishes will not be made until all applicable and related submittals have been provided.
- E. Submit Shop Drawings and Samples for only those items specifically mentioned in the Specifications. Contractor shall be responsible for obtaining Shop Drawings required for the progress of the Work, even though such Shop Drawings may not require the Architect's review.
- F. Deviations: All deviations from the Contract Documents shall be clearly identified in the

submittal. Submittal shall include only items included in the specifications or which have been approved in advance by the Architect in accordance with requirements of Section 01 60 00 "Product Requirements". Submittals containing items which have not been approved in advance by the Architect will be rejected.

G. Environmentally Sensitive Materials (Green Products):

1. Specifications are based upon the use of environmentally sensitive materials.
2. In some cases, manufacturer's standard products may contain materials that do not comply with specified requirements for the usage of environmentally sensitive materials and compliance with the specified requirements may not be possible.
3. Contractor shall submit product data electronically for products that are proposed for use that do not comply with specified requirements for the usage of environmentally sensitive materials.
4. Owner reserve the right to disapprove the submittal (and subsequent usage) for products that are proposed for use that do not comply with specified requirements for the usage of environmentally sensitive materials.

1.4 QUALITY CONTROL SUBMITTALS

- A. Submittals shall include the Manufacturer's Specifications, weights, physical dimensions, rating of equipment and supplemental information requested by the Architect. Where a submittal sheet describes items in addition to that item being submitted, delete such items. Clearly note equipment and materials which deviate from those shown or specified in size, and location of access. Modifications to the Work as shown or specified in submittals shall be indicated and shall be provided by the Contractor as a part of the Work.
- B. Manufacturer's Instructions: Where Specifications require Work to be furnished, installed or performed in accordance with a specified product Manufacturer's instructions, distribute copies of such instructions to concerned parties.
- C. Manufacturers' standard dimension drawings and performance and product data shall be edited to delete reference to equipment, features, or information that is not applicable to the equipment being supplied for this project.
- D. Provide sufficient copies of approved data, with the engineers approved stamp for inclusion in the operation and maintenance manuals.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 33 00

SECTION 01 45 00 - QUALITY CONTROL**PART 1 - GENERAL****1.1 TESTING LABORATORY SERVICES**

- A. General Contractor shall coordinate with an independent testing laboratory, acceptable to the Resident Engineer, to perform their Work called for in the Contract Documents.
- B. Contractor shall furnish samples for such tests to the testing agency as directed by the Testing Agency. Owner shall pay for testing agency initial testing.
- C. Special Inspectors: Provide evidence of qualifications prior to beginning of inspections.
- D. The testing laboratory shall distribute copies of reports as follows:
 - 1. 1 copy to Owner
 - 2. 2 copies to the Owner's Representative.
 - 3. 2 copies to the Contractor
- E. Non-conformance items are to be identified by Testing Agency separately from daily observation reports within 48 hours.
- F. Costs for retesting required due to Contractor's failure to comply with specified requirements shall be paid for by the Contractor. Cost from "stand by" time by testing agency due to inadequate coordination by contractors shall be paid for by General Contractor.
- G. The following list is intended as a guide to the Contractor to aid in the determining testing requirements for the project, however, the requirements specified in the technical sections shall take precedence over this list and this list is not to be interpreted as being complete.
 - 3. 07 92 00 - Joint Sealers: Field adhesion testing and stain testing.
 - 4. Other testing as noted elsewhere in specifications.
- H. Contactor shall request testing with 72-hour prior written notice unless more stringent longer notification period is desired on drawings.

1.3 CONTRACTOR'S QUALITY CONTROL

- A. Where Specifications require that a particular product be installed and/or applied by an Applicator approved by the Manufacturer, it is the Contractor's responsibility to ensure that Subcontractor employed for such Work is approved. Such Subcontractor(s) shall provide evidence of being approved when requested by the Architect.
- B. Work shall be executed by mechanics skilled in the Work required. Conform to the

methods, standards and accepted practices of the Trade or Trades involved.

1.4 SPECIAL INSPECTIONS

- A. Costs for Special Inspection fees will be paid by the Contractor as part of the burdening for the associated line item of work.
- B. Costs for scheduled or called for inspections of items that are not ready for inspection (under any and all circumstances) shall be back-charged to the Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 45 00

SECTION 01 60 00 - PRODUCT REQUIREMENTS**PART 1 - GENERAL****1.1 DELIVERY, STORAGE AND HANDLING**

- A. Deliver manufactured materials in the original packages, containers or bundles, with the seals unbroken, identified by the name and mark of the Manufacturer.
- B. Deliver fabrications in as large assemblies as practicable. Fabrications specified to be shop-primed or shop-finished shall be packaged or crated as required to preserve such priming or finish intact and free from abrasion.
- C. Store materials in a manner to properly protect from damage. Materials or equipment damaged by handling, weather, dirt or other cause will not be acceptable.
- D. Store materials so as to cause no obstructions. Store off sidewalks, roadways, and underground services. The Contractor shall be responsible for protecting materials and equipment furnished under the Contract.
- E. When a room in the Project is used as a shop or store room, the Contractor shall be responsible for all repairs, patching or cleaning necessary due to such use. Location of such storage space shall be subject to approval of the Resident Engineer.
- F. Packaging shall be minimized whenever possible but shall not be reduced so as to cause damage to materials or products. Packaging shall be recycled in accordance with the requirements of Section 01 74 19 - Construction Waste Management and Disposal.

1.2 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. For products specified only by reference standard, select product meeting that standard, by any manufacturer.
- B. For products specified by naming three or more products or manufacturers, it is intended that the specified products of those manufacturers shall be furnished.
- C. For products specified by naming one or more products or manufacturers and stating "or other approved," or "or approved equal," or other such wording on Drawings or within Specifications Sections, it is intended that the products by "Acceptable Manufacturer's," which in the opinion of the Resident Engineer are equivalent to the specified product, specified by product number, may be furnished.
- D. Whenever a product is specified by using a proprietary name or the name of a particular Manufacturer or Vendor, the specific item mentioned shall be understood as establishing type, function, dimension, appearance, and quality desired.

- E. Other manufacturers' products will be accepted provided sufficient information is submitted to allow the Resident Engineer to determine that products proposed are equivalent to those named.
- F. Prior Approvals:
1. Products, equipment and systems that have relative importance to the project (as determined by the Architect) or that are not easily substituted after award of contract may be submitted for prior approval.
 2. Submittals of proposed substitution under "prior approved equal" shall be made only by the General Contractor (Prime Bidder). The Resident Engineer will not entertain direct submittals by manufacturers, suppliers or subcontractors.
 3. The Resident Engineer will consider written requests by a Prime Bidder only, for substitution(s) that is/are considered equivalent to the item(s) specified.
 4. The written request will be considered only if it is received at least 12 consecutive calendar days prior to the current established bid due date.
 5. The prime bidder shall furnish at his own expense and on their own letterhead the necessary data per substitution request form to substantiate and validate that the physical, chemical, and operational qualities of each substitute item is such that this item will fulfill its required function.
 6. The substitution, if approved, will be authorized by a written addendum under "prior approved items" to the contract documents and made available to all prime bidders.
- G. Requests for approval after award of a Contract:
1. Within 30 days after award of contract, formal requests will be considered by substitutions of products in place of those specified. After the end of that period, substitution requests will be considered only if the specified product is not available (or specified product or system has been deemed illegal or dangerous by governing agencies having jurisdiction over this project) and submission shall be in the hands of the Resident Engineer a minimum of 20 days prior to date Contractor is required to place an order for the product.
 2. Contractor shall request approval of such substitution, in writing, to the Resident Engineer.
 3. The request shall specifically state the reason that the product is unavailable with evidence to substantiate the reason.
 4. Requests made directly to Resident Engineer by suppliers, subcontractors and distributors that are not from the Contractor will not be accepted by the Resident Engineer.
 5. Resident Engineer will approve or reject substitution in writing, and in such form as the Resident Engineer directs.
 6. Substitutions will not be considered if they are indicated or implied on Shop Drawings or if acceptance will require substantial revision to the Contract Documents.
- H. Contractor shall submit descriptive brochures, drawings, samples and other data as is necessary to provide direct comparison to the specified materials after reviewing and determining that product meets specified requirements. Submittal shall include data for specified product in addition to data for substitution. Submittals shall be well marked and identified as to types and kind of the items being submitted for approval. Lack of

sufficient information will be cause for rejection. Reference to catalogs will not be acceptable unless catalog is submitted with approval request.

- I. In submitting a substitution, the Contractor makes the following representations:
1. Proposed substitution has been fully investigated and determined to be equal or superior to specified product.
 2. Same warranty will be furnished for proposed substitution as for specified product.
 3. Same maintenance service and source of replacement parts, as applicable, is available.
 4. Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
 5. Cost data included on the substitution request is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
 6. Proposed substitution does not affect dimensions and functional clearances.
 7. Payment will be made for changes to building design, including A/E design, detailing, and construction costs by the substitution.
 8. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 60 00

SECTION 01 74 19 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
 - 1. Section 024119 "Selective Structure Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.

1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total nonhazardous solid waste generated by the Work in at least four material streams. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

1.4 SUBMITTALS

- A. Waste Management Plan: Submit plan within 30 days of date established for commencement of the Work.

- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit USGBC's LEED v4 Construction and Demolition Waste Calculator.
- C. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work using USGBC's LEED v4 Construction and Demolition Waste Calculator.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- H. Qualification Data: For waste management coordinator.

1.5 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: LEED-Accredited Professional, certified by USGBC, as waste management coordinator. Waste management coordinator may also serve as LEED coordinator.
- B. Waste Management Conference: Conduct conference at Project site with Resident Engineer.

1.6 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.

3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work:
 1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until installation.
 4. Protect items from damage during transport and storage.
 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Sale and Donation: Not permitted on Project site.

- C. Salvaged Items for Owner's Use:
 - 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 Owner.
 - 5. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Owner .
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - 4. Store components off the ground and protect from the weather.
 - 5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

- A. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
- C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- D. Metals: Separate metals by type.
 - 1. Structural Steel: Stack members according to size, type of member, and length.
 - 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- E. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- F. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 01 77 00 - CLOSEOUT PROCEDURES**PART 1 - GENERAL****1.1 FINAL CLEANING**

- A. Perform the following special cleaning for trades at completion of Work. Employ experienced workmen or professional cleaners for the final cleaning:
1. Remove marks, stains, fingerprints, soil and dirt from painted surfaces.
 2. Clean equipment and piping; remove stains, paint, dirt and dust.
 3. Clean concrete walks and slabs of plaster or cement droppings, paint and other objectionable materials to present a neat, clean appearance.
 4. Clean exterior metal surfaces, including doors and windows and their frames.
 5. Wash glass – exterior facing surfaces.
- B. Cleaning materials and procedures shall be non-toxic. Provide alternative materials to more toxic commercial cleaning agents, including; but not limited to: vinegar, citrus, borax, cornstarch, and baking soda.
- C. Existing improvements, inside or outside the property which are disturbed, damaged or destroyed by the Work under the Contract shall be restored to the condition in which they originally were, or to the satisfaction of the Resident Engineer.

1.2 PROJECT RECORD DOCUMENTS

- A. As the work progresses, the Contractor shall maintain a complete and accurate record of changes or deviations from the Contract Documents and Shop Drawings, indicating the Work as actually installed. Record information in the appropriate locations on a record set of prints of the Drawings and Shop Drawings and a copy of the Specifications which are maintained solely for the purpose of this documentation. Keep this record set of Contract Documents and Shop Drawings at the project site for review by the Owner and Architect. Information contained in the record documents shall include, but not be limited to:
1. Modifications made by Addenda, Change Orders, Construction Change Directives and Resident Engineer's Supplemental Instructions which shall be transferred to the record documents.
 2. Location of site underground pipes, conduits, ducts, cables and similar work, dimensioned horizontally to permanent points of reference and located vertically by indicating depth of burial. Dimensions shall be accurate within +6 inches.
 3. Location of building plumbing piping, heating and air conditioning equipment, mechanical piping, ductwork, major conduit runs, power, etc., dimensioned horizontally to permanent points of reference. Dimensions shall be accurate within 6 inches.
 4. Modifications made to accommodate field conditions.

- B. The Resident Engineer will provide the Contractor with a set of reproducible drawings, of the complete original bidding documents, at Contractor's expense. Seals and signatures of Registrants shall be completely removed and/or permanently obscured. Contractor shall provide the following on the Drawings:
 - 1. Changes in the Contract Documents, secured with prior approval of the Resident Engineer, recorded in a neat readable manner, in black ink, by a competent drafter. Deletions shall be made by erasure or sepia eradicator only.
 - 2. Prior to application for final payment, transfer all changes, information and notations made to the record prints to a reproducible set.
- C. Upon Substantial Completion of the Work, deliver the complete set of Record Documents including prints, reproducible set, Shop Drawings and annotated Specifications to the Resident Engineer for approval.
- D. Owner's Manual: Prior to final payment, submit one (1) hard-back, loose-leaf binder containing the following required submittals and any others required in other Sections, suitably typed, indexed and labeled for ready reference:
 - 1. Subcontractors, major suppliers list with companies names, addresses and telephone numbers.
 - 2. Warranties and certifications.
 - 3. Affidavit from general and subcontractors on use of asbestos free materials.
 - 4. Maintenance/operation instructions and parts list.
 - 5. List of Extra Materials supplied to Owner, signed by Owner's representative.
 - 6. Other items required by the Specifications.
 - 7. Electronic copy of documents on CD and/or DVD.

1.3 MAINTENANCE DATA

- A. Assemble maintenance manual and operating instructions in hard back loose leaf binders. Suitably label and index material for ready reference.
- B. Upon substantial completion of the Project Work, submit one copy of the Maintenance Manual to the Resident Engineer for approval. Upon receipt of Notice of Approval, deliver the additional copy to the Owner. Include operating and maintenance instruction and videos on electronic media.

1.4 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Deliver spare parts, tools, extra stocks of material and similar physical items required by individual specification sections to the Owner with a copy of the transmittal to the Owner. Obtain signed receipts from the Owner for all items.

1.5 ELECTRONIC COPIES OF IMAGE DOCUMENTS

- A. Upon completion provide CD or DVD disk(s) containing image copies in JPEG, PDF or other appropriate electronic format of all record and maintenance documents.

1.6 WARRANTIES

- A. Provide duplicate, notarized copies of documents required in the General Conditions.
- B. Submit warranties required by individual specification Sections in duplicate, assembled in durable binders with a Table of Contents.
- C. The date of commencement of warranties shall be the date of Substantial Completion except as may be modified by AIA Document G-704, Certificate of Substantial Completion, or by other written agreement with the Owner.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 77 00

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 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.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- C. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 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.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
 - 1. Inspect and discuss condition of construction to be selectively demolished.

2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, 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 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 stairs.
 5. Use of parking.
 6. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.
- D. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged, if any.

1.8 FIELD CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.

1. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
- 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.

1.9 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

1.10 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's 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 ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped, if required, before starting selective demolition operations.

- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 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.

3.3 PROTECTION

- A. Temporary Protection: 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, landscaping, sidewalks, equipment and other existing items that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, landscaping and equipment that have not been removed.
- B. Remove temporary barricades and protections where hazards no longer exist.

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, unless noted otherwise in drawings. 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. 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. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 6. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, parking and other adjacent occupied and used facilities.
- 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 Owner.
 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. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. 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 Architect, items may be removed to a suitable, protected storage location during selective demolition, cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
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.
- B. Burning: Do not burn demolished materials.

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 02 41 19

SECTION 05 51 33 - METAL LADDERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aluminum access ladders.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section.

1.3 REFERENCES

- A. AA – Aluminum Association.
- B. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- C. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- D. OSHA 1910.27 – Fixed Ladders.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Manufacturer's data sheets on each product.
- C. Shop Drawings:
 - 1. Detail fabrication and erection of each ladder indicated. Include plans, elevations, sections, and details of metal fabrications and their connections.
 - 2. Provide templates for anchors and bolts specified for installation under other Sections.
 - 3. Provide reaction loads for each hanger and bracket.
- D. Qualification Data:
 - 1. Refer to Quality Assurance provisions for submittal requirements evidencing experience, certifications and resources.
- E. Selection Samples: For each finish specified, two complete sets of color chips representing manufacturer's full range of available colors.
- F. Verification Samples: For each finish specified, two samples, minimum size 6 inches (150 mm) square, represent actual product color.

1.5 QUALITY ASSURANCE

METAL LADDERS

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- A. Manufacturer Qualifications: A firm experienced in producing aluminum metal ladders similar to those indicated for this Project.
 - 1. Record of successful in-service performance.
 - 2. Sufficient production capacity to produce required units.
 - 3. Professional engineering competent in design and structural analysis to fabricate ladders in compliance with industry standards and local codes.
- B. Installer Qualifications: Competent and experienced firm capable of selecting fasteners and installing ladders to attain designed operational and structural performance.
- C. Product Qualification: Product design shall comply with OSHA 1910.27 minimum standards for ladders.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Install ladder in area designated by Architect.
 - 2. Do not proceed with remaining work until workmanship and installation are approved by Architect.
 - 3. Rework mock-up as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions by field measurement before bid. General Contractor is to coordinate a site visit with ladder fabricator/installer so that existing ladders to be replaced, and existing guardrails to remain, can be verified. If record documents in drawing set are incorrect, contractor is to notify architect and base their bid on work that will be required for a full, code compliant ladder installation.

1.8 WARRANTY

- A. A. Manufacturer has responsibility for an extended Corrective Period for work of this Section for a period of 5 years commencing on the shipment date of the product against all the conditions indicated below, and when notified in writing from Owner, manufacturer shall promptly and without inconvenience and cost to Owner correct said deficiencies.
 - 1. Defects in materials and workmanship.
 - 2. Deterioration of material and surface performance below minimum OSHA standards as certified by independent third party testing laboratory. Ordinary wear and tear, un-

usual abuse or neglect excepted.

3. Within the warranty period, the manufacturer shall, at its option, repair, replace, or refund the purchase price of defective ladder.
- B. Manufacturer shall be notified immediately of defective products, and be given a reasonable opportunity to inspect the goods prior to return. Manufacturer will not assume responsibility, or compensation, for unauthorized repairs or labor. Manufacturer makes no other warranty, expressed or implied, to the merchantability, fitness for a particular purpose, design, sale, installation, or use, of the ladder; and shall not be liable for incidental or consequential damages, losses of or expenses, resulting from the use of ladder products.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturer: O’Keeffe’s, Inc.; 100 N Hill Drive, Suite 12, Brisbane, CA 94005. Toll Free Tel: (888) 653-3333. Tel: (415) 824-4900. Fax: (415) 824-5900. Email: info@okeeffes.com. Web: <http://www.okeeffes.com>. Customized 501 or 504 system. To be determined after contractor’s pre-bid site visit.
1. Alaco Ladder Company
 2. Precision Ladders, Inc.
 3. Or approved equal.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 APPLICATIONS/SCOPE

- A. Fixed Access Ladders:
1. Heavy Duty Tubular Rail.
 - a. Model 501 as manufactured by O’Keeffe’s Inc.. Or approved equal.
 2. Tubular Rail Low Parapet Access Ladder with Walk-through Rail Extension.
 - a. Model 504 as manufactured by O’Keeffe’s Inc.. Or approved equal.

2.3 FINISHES

- A. Clear Anodic Finish: AA-M10C22A41 Mechanical finish as fabricated. Architectural Class I, clear coating 0.018 mm or thicker.

2.4 MATERIALS

- A. Aluminum Extrusions: Alloy 6063-T6 to comply with ASTM B221.

METAL LADDERS

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2.5 FABRICATION

- A. Rungs: Not less than 1-1/4 inches (32 mm) in section and custom length, formed from tubular aluminum extrusions. Squared and deeply serrated on all sides.
 - 1. Rungs shall withstand a 1,500 pound (454 kg) load without deformation or failure.
- B. Channel Side Rails: Not less than 1/8 inch (3 mm) wall thickness by 3 inches (76 mm) wide.
- C. Heavy Duty Tubular Side Rails: Assembled from two interlocking aluminum extrusions no less than 1/8 inch (3 mm) wall thickness by 3 inches (76 mm) wide. Construction shall be self-locking stainless steel fasteners, full penetration TIG welds and clean, smooth and burr-free surfaces.
- D. Walk-Through Rail and Roof Rail Extension: Not less than 3 feet 6 inches (1067 mm) above the landing and shall be fitted with deeply serrated, square, tubular grab rails.
- E. Landing Platform: 1-1/2 inches (38 mm) or greater diameter, tubular aluminum guardrails and decks of serrated aluminum treads.
- F. Ladder Safety Post: Retractable hand hold and tie off.
- G. Ladder installing contractor to provide stainless steel safety chain with eyehook and spring snap hook.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Coordinate anchorages. Furnish setting drawings, templates, and anchorage structural loads for fastener resistance.
- B. Do not begin installation until supporting structure is complete and ladder installation will not interfere with supporting structure work.
- C. If supporting structure is the responsibility of another installer, notify Architect of unsatisfactory supporting work before proceeding.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction.

3.3 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 05 51 33

METAL LADDERS

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SECTION 05 75 00 - DECORATIVE FORMED METAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior Fin Lighting Covers.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 COORDINATION

- A. Coordinate installation of decorative formed metal with adjacent construction to ensure that wall assemblies, flashings, trim, and joint sealants, are protected against damage from the effects of weather, age, corrosion, and other causes of deterioration. Verify joint/lap types at adjacent, existing fin segments to remain. Coordinate joints/laps of new segments to fit. Original fin segment(s) to be replaced may be used as a template for their replacement.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product, including finishing materials.
 1. Sustainable Design Submittals: Show a minimum of 25% post-consumer recycled content.
- B. Shop Drawings: Show fabrication and installation details for decorative formed metal.
 1. Include plans, elevations, component details, and attachment details.
 2. Indicate materials and profiles of each decorative formed metal member, fittings, joinery, finishes, fasteners, anchorages, and accessory items.
- C. Samples for Verification: For each type of exposed finish required, prepared on 6-inch- (150-mm-) square Samples of metal of same thickness and material indicated for the Work.

1.6 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: For decorative formed metal elements that house items specified in other Sections. Show dimensions of housed items, including locations of housing penetrations and attachments, and necessary clearances.
- B. Qualification Data: For fabricator.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing decorative formed metal similar to that indicated for this Project and with a record of successful in-service performance as well as sufficient production capacity to produce required units.
- B. 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 for the following types of decorative formed metal:
 - a. Install one new full fin segment and one repaired fin segment.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver decorative formed metal products wrapped in protective coverings and strapped together in suitable packs or in heavy-duty cartons. Remove protective coverings before they stain or bond to finished surfaces.
- B. Store products on elevated platforms in a dry location.

1.9 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls, slope of stucco bases below fins, steel angle supports, adjacent fin lighting cover segments, existing fasteners, and other construction contiguous with decorative formed metal by field measurements before fabrication and indicate measurements on Shop Drawings.

1.10 SOURCE LIMITATIONS

- A. For decorative metal items, obtain each color, grade, finish, type, and variety of metal from single source with resources to provide products of consistent quality in appearance and physical properties.

1.11 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Decorative formed metal items, including anchors and connections, are to withstand the effects of gravity loads and the following loads and stresses without exceeding the allowable design working stress of materials involved and without exhibiting permanent deformation in any components:
 - 1. Wind Loads on Exterior Items: 20 lbf/sq. ft.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
 - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

1.12 SHEET METAL

- A. General: Fabricate products from sheet metal without pitting, seam marks, roller marks, stains, discolorations, or other imperfections where exposed to view on finished units.
- B. Galvanized-Steel Sheet: ASTM A653/A653M, G90 coating, either commercial steel or forming steel.

1.13 MISCELLANEOUS MATERIALS

- A. Filler Metal and Electrodes: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded or brazed and as necessary for strength, corrosion resistance, and compatibility in fabricated items.
- B. Fasteners: Fabricated from same basic metal and alloy as fastened metal unless otherwise indicated. Do not use metals that are incompatible with materials joined.
 - 1. Provide concealed fasteners for interconnecting decorative formed metal items and for attaching them to other work unless otherwise indicated.
 - 2. Provide square or hex socket pan-head machine screws for exposed fasteners unless otherwise indicated.

1.14 PAINTS AND COATINGS

- A. Etching Cleaner for Galvanized Metal: Product formulated to remove grease and oil residue from metal surfaces and provide a clean, lightly etched surface to promote adhesion of coatings.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- C. Shop Primers: Comply with Section 099113 "Exterior Painting".

1.15 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble decorative formed metal items in 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.
- B. Coordinate dimensions and attachment methods of decorative formed metal items with those of adjoining construction to produce integrated assemblies with closely fitting joints and with edges and surfaces aligned unless otherwise indicated.
- C. Form metal to profiles indicated, in maximum lengths to minimize joints. Fin segments requiring replacement are to be replaced in full. Produce flat, flush surfaces without cracking or grain separation at bends. Fold back exposed edges of unsupported sheet metal to form a 1/2-inch- (12-mm-) wide hem on the concealed side.
- D. Increase metal thickness or reinforce with concealed stiffeners, backing materials, or both, as needed to provide surface flatness equivalent to stretcher-leveled standard of flatness and sufficient strength for indicated use.
 - 1. Support joints with concealed stiffeners as needed to hold exposed faces of adjoining sheets in flush alignment.
- E. Build in straps, plates, and brackets as needed to support and anchor fabricated items to adjoining construction. Reinforce decorative formed metal items as needed to attach and support other construction.
- F. Where welding or brazing is indicated, weld or braze joints and seams continuously. Grind, fill, and dress to produce smooth, flush, exposed surfaces in which joints are not visible after finishing is completed.

1.16 FIN LIGHTING COVERS

- A. Form lighting covers from metal of type and thickness indicated below. Coordinate size of covers, and method of attachment to adjoining construction.
 - 1. Galvanized-Steel Sheet: 20ga, 0.0396".
 - a. Finish: Factory primed.

1.17 GENERAL FINISH REQUIREMENTS

- A. Complete mechanical finishes of flat sheet metal surfaces before fabrication where possible. After fabrication, finish all joints, bends, abrasions, and other surface blemishes to match sheet finish.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Apply organic and anodic finishes to formed metal after fabrication unless otherwise indicated.

- D. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

1.18 GALVANIZED-STEEL SHEET FINISHES

- A. Preparing Galvanized Items for Factory Priming: Thoroughly clean galvanized decorative formed metal of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.
- B. Repairing Galvanized Surfaces: Clean welds and abraded areas and repair galvanizing to comply with ASTM A780/A780M.
- C. Factory Priming for Field-Painted Finish: Where field painting after installation is indicated, apply shop primer to prepared surfaces of items 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.
- D. Field paint the factory primed fin lighting covers. Color per the drawings.

PART 2 - EXECUTION

2.1 EXAMINATION

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

2.2 INSTALLATION

- A. Locate and place decorative formed metal items level and plumb and in alignment with adjacent construction. Perform cutting, drilling, and fitting required to install decorative formed metal.
 - 1. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to the shop for required alterations, followed by complete refinishing, or provide new units as required.
- B. Use concealed anchorages where possible.
- C. Form tight joints with exposed connections accurately fitted together.
- D. Corrosion Protection: Apply bituminous paint or other permanent separation materials on concealed surfaces where metals would otherwise be in direct contact with substrate materials that are incompatible or could result in corrosion or deterioration of either material or finish.

2.3 ADJUSTING AND CLEANING

- A. Unless otherwise indicated, clean metals by washing thoroughly with water and soap, rinsing with clean water, and drying with soft cloths.
- 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.

2.4 PROTECTION

- A. Protect finishes of decorative formed metal items from damage during construction period. Remove temporary protective coverings at time of Substantial Completion.

END OF SECTION 05 75 00

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Rooftop equipment bases and support curbs.
3. Wood blocking, cants, and nailers.
4. Wood furring and grounds.
5. Wood sleepers.
6. Plywood backing panels.

B. Related Requirements:

1. Section 06 16 00 "Sheathing" for sheathing.

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) size or greater but less than 5 inches nominal (114 mm actual) size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. OSB: Oriented strand board.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Engineered wood products.
 - 3. Power-driven fasteners.
 - 4. Post-installed anchors.
 - 5. Metal framing anchors.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products 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

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
 - 3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.
- C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
 - 1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
 - 2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
 - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 - 4. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.
 - 5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 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. Rooftop equipment bases and support curbs.
 - 4. Cants.
 - 5. Furring.
 - 6. Grounds.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of the following species:
 - 1. Western woods; WCLIB or WWPA.

- C. Concealed Boards: 19 percent maximum moisture content and the following species and grades:
 - 1. Western woods; Construction or No. 2 Common grade; WCLIB or WWP.
- 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.

2.4 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, Exterior, A-C in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

2.5 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
 - 1. Where rough 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 or of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC58, ICC-ES AC193, or ICC-ES AC308 as appropriate for the substrate.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

2.6 METAL FRAMING ANCHORS

- A. Allowable design loads, as published by manufacturer, shall meet or exceed those of products indicated on the Drawings. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed

by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.
 - 1. Use for interior locations unless otherwise indicated.
- C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 (Z550) coating designation; and not less than 0.036 inch (0.9 mm) thick.
 - 1. Use for wood-preserved-treated lumber and where indicated.
- D. Stainless-Steel Sheet: ASTM A 666, Type 304 or Type 316.
 - 1. Use for exterior locations and where indicated.
- E. Joist Hangers: U-shaped joist hangers with 2-inch- (50-mm-) long seat and 1-1/4-inch- (32-mm-) wide nailing flanges at least 85 percent of joist depth.
 - 1. Thickness: 0.062 inch (1.6 mm).
- F. Top Flange Hangers: U-shaped joist hangers, full depth of joist, formed from metal strap with tabs bent to extend over and be fastened to supporting member.
 - 1. Strap Width: 2 inches (50 mm).
 - 2. Thickness: 0.062 inch (1.6 mm).
- G. Bridging: Rigid, V-section, nailless type, 0.050 inch (1.3 mm) thick, length to suit joist size and spacing.
- H. Post Bases: Adjustable-socket type for bolting in place with standoff plate to raise post 1 inch (25 mm) above base and with 2-inch- (50-mm-) minimum side cover, socket 0.062 inch (1.6 mm) thick, and standoff and adjustment plates 0.108 inch (2.8 mm) thick.
- I. Joist Ties: Flat straps, with holes for fasteners, for tying joists together over supports.
 - 1. Width: As indicated.
 - 2. Thickness: As indicated.
 - 3. Length: As indicated.
- J. Rafter Tie-Downs: Bent strap tie for fastening rafters or roof trusses to wall studs below, 1-1/2 inches (38 mm) wide by 0.050 inch (1.3 mm) thick.
- K. Rafter Tie-Downs (Hurricane or Seismic Ties): Bent strap tie for fastening rafters or roof trusses to wall studs below, 2-1/4 inches (57 mm) wide by 0.062 inch (1.6 mm) thick. Tie fits over top of rafter or truss and fastens to both sides of rafter or truss, face of top plates, and side of stud below.

- L. Hold-Downs: Brackets for bolting to wall studs and securing to foundation walls with anchor bolts or to other hold-downs with threaded rods and designed with first of two bolts placed seven bolt diameters from reinforced base.
 - 1. Bolt Diameter: As indicated
 - 2. Width: As indicated
 - 3. Body Thickness: As indicated
 - 4. Base Reinforcement Thickness: As indicated
- M. Wall Bracing: T-shaped bracing made for letting into studs in saw kerf, 1-1/8 inches (29 mm) wide by 9/16 inch (14 mm) deep by 0.034 inch (0.85 mm) thick with hemmed edges.
- N. Wall Bracing: Angle bracing made for letting into studs in saw kerf, 15/16 by 15/16 by 0.040 inch (24 by 24 by 1 mm) thick with hemmed edges.

2.7 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch (25-mm) nominal thickness, compressible to 1/32 inch (0.8 mm); selected from manufacturer's standard widths to suit width of sill members indicated.
- B. 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.
- C. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.
- D. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- E. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.
- F. Do not splice structural members between supports unless otherwise indicated.

- G. 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 (406 mm) o.c.
- H. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches (2438 mm) o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches (2438 mm) o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal (38-mm actual) thickness.
 3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. (9.3 sq. m) and to solidly fill space below partitions.
 4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet (6 m) o.c.
- I. Sort and select lumber so that natural characteristics do 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.
- J. Comply with AWPAC M4 for applying field treatment to cut surfaces of preservative-treated lumber.
1. Use inorganic boron for items that are continuously protected from liquid water.
 2. Use copper naphthenate for items not continuously protected from liquid water.
- K. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- L. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. Table 2304.10.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 2. ICC-ES evaluation report for fastener.
- M. 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.
- N. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.

1. Comply with indicated fastener patterns where applicable. Before fastening, mark fastener locations, using a template made of sheet metal, plastic, or cardboard.
2. Use finishing nails unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
3. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for screeding or 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.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Furring to Receive Plywood or Hardboard Paneling: Install 1-by-3-inch nominal- (19-by-63-mm actual-) size furring vertically at 24 inches (610 mm) o.c.
- C. Furring to Receive Gypsum Board: Install 1-by-2-inch nominal- (19-by-38-mm actual-) size furring vertically at 16 inches (406 mm) o.c.

3.4 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 00

SECTION 06 16 00 - SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Roof sheathing. Replacement of damaged existing sheathing and infill at abandoned openings.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated plywood.
- B. Field quality-control reports.

1.6 DELIVERY, STORAGE, AND HANDLING

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 WOOD PANEL PRODUCTS

- A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

2.3 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.4 ROOF SHEATHING

- A. Plywood Sheathing: Either DOC PS 1 or DOC PS 2, Exposure 1, Structural I sheathing.
 - 1. Span Rating: Not less than 32/16.
 - 2. Nominal Thickness: Not less than 1/2 inch (13 mm).
 - a. Match thickness of existing adjacent panels.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. For roof sheathing, provide fasteners as indicated.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.6 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels to Wood Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. Table 2304.10.1, "Fastening Schedule," in the ICC's International Building Code.
 - 2. ICC-ES evaluation report for fastener.
- D. Use common wire 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. Install fasteners without splitting wood.
- E. Coordinate roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- G. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

SHEATHING

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3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Roof Sheathing:
 - a. Nail to wood framing.
 - b. Space panels 1/8 inch (3 mm) apart at edges and ends.

END OF SECTION 06 16 00

SECTION 07 01 50.16 - MAINTENANCE CLEANING OF MEMBRANE ROOFING**PART 1 - GENERAL****1.1 SUMMARY (Upper Roof Section)****A. Section Includes:**

1. Pressure washing of roof membrane including membrane flashings, with full water reclamation at rotunda/tower roofing and at canopies.

B. Related Requirements:

1. Division 07 roofing rehabilitation section for repair and restoration coating of roofing membranes.

1.2 ACTION SUBMITTALS

- A. Product Data: For cleaning compounds.

1.3 INFORMATIONAL SUBMITTALS

- A. Work Plan: For maintenance cleaning, including description of means and methods for water reclamation.

1.4 QUALITY ASSURANCE

- A. Operator Qualifications: Trained and approved by manufacturer of cleaning equipment, with a record of successful roofing membrane cleaning.
- B. Regulatory Requirements: Comply with governing EPA regulations. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.5 PROJECT / FIELD CONDITIONS

- A. Owner will occupy portions of building immediately below roof area to be maintained. Conduct operations so Owner's operations are not disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
- B. Protect building to be cleaned, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from maintenance operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

PART 2 - PRODUCTS**2.1 CLEANING SYSTEM OPERATORS**

- A. Source Limitations: Engage a qualified roofing maintenance cleaning firm to perform cleaning of membrane roofing.

- B. Approved Operators: RoofTec Cleaning Systems, Tremco CPG Inc., Beachwood OH, (800) 562-2728. Or approved equal.

2.2 PERFORMANCE REQUIREMENTS

- A. Water Reclamation: Provide maintenance cleaning of membrane roofing that provides 100 percent reclamation of cleaning water and complies with applicable provisions of the US EPA National Pollutant Discharge Elimination System (NPDES) program and requirements of local authorities having jurisdiction.

2.3 MATERIALS

- A. Pre-cleaning Treatment: Detergent-free.
 - 1. Product: Tremco, RoofTec PREKLEEN. Or approved equal.
- B. Pressure Wash Cleaning Solution: VOC, detergent, phosphate, and surfactant free.
 - 1. Product: Tremco, RoofTec RENEW Cleaner. Or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Comply with warranty requirements of existing roof membrane manufacturer.
- B. Test existing roof drains to verify that they are not blocked or restricted. Immediately notify Owner of any blockages or restrictions.
- C. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with maintenance cleaning work that could affect indoor air quality or activate smoke detectors in the ductwork.
- D. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors.

3.2 MAINTENANCE CLEANING OF ROOF MEMBRANE

- A. Pretreat membrane and flashings when recommended by cleaning equipment manufacturer based upon site assessment of membrane condition.
- B. Apply pressure wash cleaning solution onto membrane and flashing surfaces.
- C. Pressure wash membrane and flashings using equipment and methods recommended in writing by cleaning equipment manufacturer for specific application. Utilize rotating wash head equipment operated at not less than 2,000 psi (13,800 kPa). Use equipment utilizing vacuum removal of wash water and residues.
- D. Observe/monitor interior spaces below roof areas being cleaned. If a leak occurs stop power washing. Continue only after leak has been temporarily plugged, or continue cleaning with a less aggressive method which will not cause leaks.

MAINTENANCE CLEANING OF MEMBRANE ROOFING

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3.3 DISPOSAL

- A. Collect cleaning water and associated cleaning compounds and residual material and process to meet US EPA and local environmental requirements for legal discharge.

END OF SECTION 07 01 50.16

SECTION 07 01 50.19 - PREPARATION FOR RE-ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof replacement preparation consisting of full roof tear-off of entire roof system.
2. Recycling of non-hazardous demolition and construction waste.

1.2 DESCRIPTION OF WORK

A. Re-roofing preparation Work consists of the following:

1. Preparation for Roof Area Main Lower Roof Areas:
 - a. Preparation for: Roof replacement.
 - b. Existing Roof Type: Smooth surfaced BUR.
 - c. Existing Deck Type: Wood deck.
 - d. Roof tear-off.
 - e. Removal and reinstallation of indicated components, accessories, and equipment.
 - f. Salvaging of non-hazardous demolition and construction waste.
 - g. Recycling of non-hazardous demolition and construction waste.
 - h. Removal of base flashings.

1.3 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 "Standard Terminology Relating to Roofing and Waterproofing" and glossary in applicable edition of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" for definition of terms related to roofing work in this Section.
- B. Existing Roofing System: Roofing system identified above, including roof covering/membrane, roof insulation, surfacing, and components and accessories between deck and roof covering/membrane.
- C. Full Roof Tear-Off: Removal of existing membrane roofing system from deck.

- D. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- E. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- F. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

1.5 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting removal Work, conduct conference at Project site.
 - 1. Coordinate with roofing preinstallation meetings specified in Division 07 roofing section(s).
 - 2. Review methods and procedures related to roofing tear-off, including, but not limited to, the following:
 - a. Reroofing preparation, including roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system components that are to remain.
 - c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
 - e. Existing roof deck conditions requiring Architect notification.
 - f. Existing roof deck removal procedures and Owner notifications.
 - g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - h. Structural loading limitations of roof deck during reroofing.
 - i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
 - j. Asbestos removal and discovery of asbestos-containing materials.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements:

PREPARATION FOR RE-ROOFING

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1. Comply with governing EPA notification regulations before beginning membrane roofing removal.
2. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.7 PROJECT / FIELD CONDITIONS

- A. Owner will occupy portions of building immediately below reroofing area.
 1. Conduct reroofing so Owner's operations will not be disrupted.
 2. Provide Owner with not less than 72 hours' written notice of activities that may affect Owner's operations.
 3. Coordinate work activities daily with Owner so Owner can place protective dust or water leakage covers over sensitive equipment or furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below the work area.
 4. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below the affected area.
 - a. Verify that occupants below the work area have been evacuated before proceeding with work over the impaired deck area.
- B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D. Limit construction loads on roof to rooftop equipment wheel loads and uniformly distributed loads not exceeding recommendations of Contractor's professional engineer based upon site inspection and analysis.
- E. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
 1. Remove only as much roofing in one day as can be made watertight in the same day.
- F. Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.

PART 2 - PRODUCTS

2.1 DECK REPAIR/REPLACEMENT MATERIALS

- A. Wood Roof Deck Components:
 1. Wood Deck Material:

- a. Comply with DOC PS 20 and with applicable grading rules of inspection agencies certified by ALSC's Board of Review.
 - b. Moisture Content: Provide wood decking with 19 percent maximum moisture content at time of dressing.
 - c. Match existing size.
2. Fasteners: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- a. For roof, wall and parapet sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153/A 153M or Type 304 stainless steel.
 - 1) Nails, Brads, and Staples: ASTM F1667.
 - 2) Power-Driven Fasteners: NES NER-272.
 - 3) Wood Screws: ASME B18.6.1.
 - b. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
 - 1) For wall and roof sheathing panels, provide screws with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B117.

PART 3 - EXECUTION

3.1 PREPARATION, GENERAL

- A. Seal or isolate windows that may be exposed to airborne substances created in removal of existing materials.
- B. Test existing roof drains to verify that they are not blocked or restricted.
 1. Immediately notify Architect of any blockages or restrictions.
- C. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work.
 1. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- D. Pollution Control: Comply with environmental regulations of authorities having jurisdiction. Limit spread of dust and debris.
 1. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 2. Remove debris from building roof by chute, hoist, or other device that will convey debris to grade level.

PREPARATION FOR RE-ROOFING

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- E. Temporary Weather Protection: During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- F. Roof Drain Protection: Maintain roof drains in functioning condition to ensure roof drainage at end of each workday.
 - 1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.
 - 2. Prevent debris from entering or blocking roof drains and conductors.
 - a. Use roof-drain plugs specifically designed for this purpose.
 - b. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

3.2 ROOF TEAR-OFF

- A. Lower removed roofing materials to ground and onto lower roof levels, using dust-tight chutes or other acceptable means of removing materials from roof areas.
- B. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.
 - 1. Remove fasteners from deck or cut fasteners off slightly above deck surface.
- C. Roof Edge Specialties: Replace existing perimeter metal systems with new perimeter metal systems, unless otherwise noted in drawings.
 - 1. New perimeter metal systems (fascia and coping) are specified in Division 07 Section "Sheet Metal Flashing and Trim."
- D. Inspect wood blocking, curbs, and nailers for deterioration and damage.
 - 1. Replace existing wood components that exhibit signs of deterioration or other conditions detrimental to securement of roofing system components, including roof edge flashings.
 - 2. Reuse of Existing Wood Nailers: Permitted where type, size and securement are in accordance with Factory Mutual Loss Prevention Data Bulletin 1-49; and existing wood nailers exhibit no signs of deterioration or other conditions detrimental to securement of new roofing system in conformance with specified requirements.

3.3 DECK PREPARATION

- A. Inspect deck after tear-off of membrane roofing system.
- B. Verify that deck is sound and dry.

- C. If broken or loose fasteners that secure deck panels to one another or to structure are observed or if deck appears or feels inadequately attached, immediately notify Architect. Do not proceed with installation until directed by Architect.
- D. Unsuitable Deck: If deck surface is not suitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect. Do not proceed with installation until directed by Architect.

3.4 DECK REPAIR/REPLACEMENT

- A. Repair existing deck to provide smooth working surface for installation of roof system.
 - 1. Replace deck that cannot be repaired to sound condition.
- B. Wood Roof Deck Replacement:
 - 1. Install solid-sawn wood decking to match existing deck construction and to comply with applicable code.
 - 2. Wood Sheathing Panels: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.

3.5 BASE FLASHING REMOVAL

- A. Remove existing base flashings around parapets, curbs, walls, and penetrations; Unless otherwise noted in drawings.
 - 1. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.
- B. Do not damage metal counterflashings that are to remain.
 - 1. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish.

3.6 RECYCLING OF DEMOLITION AND CONSTRUCTION WASTE

- A. Recycling of Roof Membrane and Insulation: Cut membrane and other components into manageable size, and package for pickup and handling in accordance with recycling vendor's requirements.
- B. Prevent other materials or debris from intermixing with recycled material.
- C. Submit final summary of progress reports, including percentage of recycled waste to quantity of total waste, by weight.

3.7 DISPOSAL

- A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
 - 1. Storage or sale of demolished items or materials on-site is not permitted.

- B. Transport and legally dispose of demolished materials off Owner's property.

3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by preparation for re-roofing operations. Return adjacent areas to condition existing before operations began.

END OF SECTION 07 01 50.19

SECTION 07 01 50.74 - REHABILITATION OF SINGLE PLY ROOFING**PART 1 - GENERAL****1.1 SUMMARY**

A. This Section includes the following:

1. Roof membrane coating preparation.
2. Application of reinforced fluid-applied roof membrane and flashings over existing fully adhered PVC membrane roof.

1.2 ROOFING CONFERENCES

A. Roofing Rehabilitation Preinstallation Conference: Conduct conference at Project site to review methods and procedures related to roofing system.

1. Meet with Owner; Architect; roofing coating materials manufacturer's representative; roofing rehabilitation Installer including project manager and foreman; and installers whose work interfaces with or affects rehabilitation including installers of roof accessories and roof-mounted equipment requiring removal and replacement as part of the Work.
2. Review temporary protection requirements for existing roofing system that is to remain uncoated, during and after installation.
3. Review methods and procedures related to re-coating preparation, including coating manufacturer's written instructions.
4. Review roof drainage during each stage of coating and review roof drain plugging and plug removal procedures.
5. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
6. Review base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect coating.

1.3 MATERIALS OWNERSHIP

A. Demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 "Standard Terminology Relating to Roofing and Waterproofing" and glossary in NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" for definition of terms related to roofing work in this Section.
- B. Roofing Coating Preparation: Existing roofing that is to remain and be prepared to accept restorative coating application.

- C. Patching: Removal of a portion of existing membrane roofing system from deck or removal of selected components and accessories from existing membrane roofing system and replacement with similar materials.
- D. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and reinstalled.
- E. Existing to Remain: Existing items of construction that are not indicated to be removed.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product specified.
- B. Sustainable Design Submittals:
 - 1. Product Test Reports: For roof coating, indicating that coated roof will comply with solar reflectance index requirement.
 - 2. Indicate Food, Conservation, and Energy Act of 2008 Bio-based material requirement compliance.
 - a. Indicate type of bio-based material in product.
 - b. Indicate the percentage of bio-based content per unit of product.
 - c. Indicate relative dollar value of bio-based content product to total dollar value of product included in project.

1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Product Certificate: Submit notarized certificate, indicating products intended for Work of this Section, including product names and numbers and manufacturers' names, with statement indicating that products to be provided meet the requirements of the Contract Documents.
 - 1. Provide manufacturer's UL listing certificate for roofing system.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing rehabilitation system.
- C. Qualification Data: For Installer, Manufacturer, and Roofing Inspector.
 - 1. Letter written for this Project indicating manufacturer approval of Installer to apply specified products and provide specified warranty.
- D. Warranties: Unexecuted sample copies of special warranties.
- E. Photographs or Video Recordings: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, which might be misconstrued as having been damaged by rehabilitation operations. Submit before Work begins.

- F. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, and for dust control. Indicate proposed locations and construction of barriers.
- G. Inspection Reports: Reports of Roofing Inspector. Include weather conditions, description of work performed, tests performed, defective work observed, and corrective actions required and carried out.
 - 1. Submit report within 48 hours after inspection.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: To include in maintenance manuals.
- B. Warranties: Executed copies of approved warranty forms.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a record of successful in-service performance installing products similar to those specified, able to communicate verbally with Contractor, Architect, and employees, and the following:
 - 1. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
- B. Manufacturer Qualifications: Primary product manufacturer that is UL listed for roofing system identical to that specified for this Project with a record of successful in-service performance in manufacture of comparable products in similar applications, and able to furnish warranty with provisions matching specified requirements.
 - 1. Approval of Other Manufacturers and Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
 - a. Product data, including certified independent test data indicating compliance with requirements.
 - b. Samples of each component.
 - c. Sample submittal from similar project.
 - d. Project references: Minimum of five installations of specified products, with Owner and Architect/Owner's Consultant contact information.
 - e. Sample warranty.
- C. Roofing Inspector Qualifications: A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and

approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:

1. An authorized full-time technical employee of the manufacturer.
2. An independent party certified as a Registered Roof Observer by the International Institute of Building Enclosure Consultants (formerly the Roof Consultants Institute) retained by the Contractor or the Manufacturer and approved by the Manufacturer.

1.9 FIELD CONDITIONS

- A. Weather Limitations: Proceed with rehabilitation work only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.
 1. Store all materials prior to application at temperatures recommended by manufacturer.
 2. Apply coatings within range of ambient and substrate temperatures recommended by manufacturer.
 3. Do not apply roofing in snow, rain, fog, or mist.
- B. Protect building to be rehabilitated, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from rehabilitation operations.
- C. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- D. Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
- E. Owner will occupy portions of building immediately below re-coating area. Conduct re-coating so Owner's operations will not be disrupted. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

1.10 WARRANTY

- A. Manufacturer's Warranty: In which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within warranty period, as follows.
 1. Form of Warranty: Tremco "Plain and Simple" warranty form. Or approved equal.
 2. Scope of Warranty: Work of this Section.
 3. Warranty Period: 30 years from date of completion.
 4. Inspections by Manufacturer: To occur every five years following completion.
- B. Installer Warranty: Installer's warranty signed by Installer, as follows.
 1. Form of Warranty: Form acceptable to Roofing Manufacturer and Owner.

2. Scope of Warranty: Work of this Section.
3. Warranty Period: 5 years from date of completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: The roof system specified in this Section is based upon products of Tremco CPG Inc, Beachwood, OH, (800) 562-2728, www.tremcoroofing.com that are named in other Part 2 articles. Provide specified products or comparable products of one of the following.
 1. Manufacturers of comparable products: Johns Manville, Sika USA, or approved equal prior to bid.
- B. Source Limitations: Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Rehabilitated roofing shall withstand exposure to weather without failure or leaks due to defective manufacture or installation.
 1. Accelerated Weathering: Roofing system shall withstand 5000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.
- C. Exterior Fire-Test Exposure: Roofing system exterior fire-test exposure performance following application of rehabilitation coating shall be not be less than that of the prerehabilitated roof performance when tested in accordance with ASTM E108, based upon manufacturer's tests of identical applications.
- D. Energy Performance: Provide rehabilitated roof meeting initial solar reflectance of 75 when calculated according to ASTM E1980.
- E. Energy Performance: Provide rehabilitated roofing according to the following when tested according to CRRC-1:
 1. Three-year, aged solar reflectance of not less than 0.55 and emissivity of not less than 0.75.
- F. Bio-Based Content: Provide roofing rehabilitation coating materials meeting requirements of USDA Bio-based Affirmative Procurement Program, with not less than 20 percent bio-based content.

2.3 MATERIALS, GENERAL

- A. General: Rehabilitation materials recommended by roofing system manufacturer for intended use and compatible with components of existing membrane roofing system.

- B. Infill Materials: Where required to replace test cores and to patch existing roofing, use infill materials matching existing membrane roofing system materials, unless otherwise indicated.
- C. Temporary Roof Drainage: Design and selection of materials for temporary roof drainage are responsibilities of the Contractor.

2.4 FLUID-APPLIED ROOFING MEMBRANE COATING

- A. Polyurethane Elastomeric Fluid-Applied System: Two-coat fluid-applied roofing membrane formulated for application over prepared existing roofing substrate.
 - 1. Polyurethane Roof Coating System Base Coat: Bio-based, low-odor low-VOC two-part, for use with a compatible top coat.
 - a. Basis of design product: Tremco, AlphaGuard BIO Base Coat. Or approved equal.
 - b. Combustion Characteristics, UL 790: Maintains combustion characteristics of existing roof system.
 - c. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 1 g/L.
 - d. Accelerated Weathering, 5000 hours, ASTM G154: Pass.
 - e. Hardness, Shore A, minimum, ASTM D2240: 80.
 - f. Solids, by volume, ASTM D2697: 100 percent.
 - g. Bio-Based Content, Minimum: 70 percent.
 - h. Minimum Thickness, Base Coat reinforced over Smooth BUR, MB, Concrete, Single-Ply: 48 mils (1.22 mm) wet.
 - 2. Polyurethane roof coating system top coat, bio-based low-odor low-VOC two-part, for application over compatible base coat.
 - a. Basis of design product: Tremco, AlphaGuard BIO Top Coat. Or approved equal.
 - b. Combustion Characteristics, UL790: Maintains combustion characteristics of existing roof system.
 - c. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 6 g/L.
 - d. Solar Reflectance Index (SRI), ASTM E1980: For white, not less than 103.
 - e. Accelerated Weathering, 5000 hours, ASTM G 154: Pass.
 - f. Hardness, Shore A, minimum, ASTM D2240: 81.
 - g. Solids, by volume, ASTM D2697: 100 percent.
 - h. Bio-Based Content, Minimum: 60 percent.

- i. Minimum Thickness, reinforced system: 48 mils (1.22 mm) wet.
- j. Minimum Thickness, non-reinforced system: 16 mils (0.40 mm) wet.
- k. Minimum Thickness, Slip-Resistant Coat: 24 mils (0.60 mm) wet.
- l. Color: White.

B. Primers:

1. Primer for Non-Porous Surfaces: Single-part, water based primer to promote adhesion of urethanes to metals, PVC and other non-porous surfaces.
 - a. Basis of design product: Tremco, AlphaGuard M-Prime. Or approved equal.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 22 g/L.
 - c. Nonvolatile Content, minimum, ASTM D2369: 5 percent.
 - d. Density at 77 deg F (25 deg C): 8.3 lb/gal (1kg/L).
2. Single-component reactivating primer used to prepare aged bio-based urethane products.
 - a. Basis of design product: Tremco, BIO Prime. Or approved equal.
 - b. Coverage Rate: 1/4 gal / 100 sq. ft. (0.1 L/m²) (4 wet mils) minimum.

C. Fluid-Applied Roofing Reinforcing Fabric:

1. Polyester Reinforcing Fabric: Heavy-weight, polyester fabric intended for reinforcement of compatible fluid-applied membranes.
 - a. Basis of design product: Tremco, Permafab MAX. Or approved equal.
 - b. Elongation at Maximum Load, ASTM D5034: MD - 25 percent; XMD - 94 percent.
 - c. Peak Load, ASTM D5034: MD - 117 lbf/in (13.2 Nm) ; XMD 123 lbf/in (13.9 Nm).
 - d. Tear Strength, ASTM D5587 (Trapezoid): MD - 73 lbs (33.1 kg) avg; XMD - 60 lbs (27.2 kg) avg.
 - e. Weight, ASTM D3776: 3.9 oz./100 sq. ft (48.8 g/sq. m).

2.5 AUXILIARY ROOFING REHABILITATION MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with existing roofing system and roofing coating system.
- B. Seam Sealer: Waterproof seam and patching material compatible with applied coating.

1. Seam Sealer: Aromatic polyurethane sealer, single-component, high solids, moisture curing, formulated for compatibility and use with a variety of roofing and flashing substrates.
 - a. Basis of design product: Tremco, GEOGARD Seam Sealer. Or approved equal.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 189 g/L.
 - c. Tensile Strength, ASTM D412: 270 psi (1860 kPa).
 - d. Tear Strength, ASTM D412: 35 pli (6.13 kNm).
 - e. Elongation, ASTM D412: 220 percent.
 - f. Color: Gray.
- C. Seam and Detail Reinforcing Fabric:
 1. Polyester Reinforcing Fabric: Heavy-weight, polyester fabric intended for reinforcement of compatible fluid-applied membranes.
 - a. Basis of design product: Tremco, Permafab MAX. Or approved equal.
 - b. Elongation at Maximum Load, ASTM D5034: MD - 25 percent; XMD - 94 percent.
 - c. Peak Load, ASTM D5034: MD - 117 lbf/in (13.2 Nm) ; XMD 123 lbf/in (13.9 Nm).
 - d. Tear Strength, ASTM D5587 (Trapezoid): MD - 73 lbs (33.1 kg) avg; XMD - 60 lbs (27.2 kg) avg.
 - e. Weight, ASTM D3776: 3.9 oz./100 sq. ft (48.8 g/sq. m).
- D. Joint Sealant: Elastomeric joint sealant compatible with applied coating, with movement capability appropriate for application.
 1. Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.
 - a. Basis of design product: Tremco, TremSEAL Pro. Or approved equal.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 40 g/L.
 - c. Hardness, Shore A, ASTM C661: 40.
 - d. Adhesion to Concrete, ASTM C794: 35 pli.
 - e. Tensile Strength, ASTM D412: 350 psi (2410 kPa).
 - f. Color: White.

- E. Miscellaneous Accessories: Provide miscellaneous accessories recommended by roofing system manufacturer.

2.6 WALKWAYS

- A. Slip Resistant Product for Fluid-Applied Walkways:
 - 1. Granular Roofing Surfacing: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 (2.36-mm) sieve and 98 percent of mass retained on No. 40 (0.425-mm) sieve.
 - a. Basis of design product: Granular Roofing Surfacing, Colored.
 - b. Aggregate application rate, average: 10 - 15 lb/100 sq ft (0.5 - 0.75 k/m²).
 - c. Color: As selected by Architect from manufacturer's standard colors from manufacturer's standard colors.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine existing roofing substrates, with Installer present, for compliance with requirements and for other conditions affecting application and performance of roof coatings
 - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance.
 - 2. Verify compatibility with and suitability of substrates.
 - 3. Verify that substrates are visibly dry and free of moisture.
 - 4. Verify that roofing membrane surfaces have adequately aged to enable proper bond with base coat.
 - 5. Verify that roofing membrane is free of blisters, splits, open laps, indications of shrinkage, and puncture damage or other indications of impending roof system failure.
 - 6. Commencing application of coatings indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Protect existing roofing system that is indicated not to be rehabilitated, and adjacent portions of building and building equipment.
 - 1. Mask surfaces to be protected. Seal joints subject to infiltration by coating materials.
 - 2. Limit traffic and material storage to areas of existing roofing membrane that have been protected.
 - 3. Maintain temporary protection and leave in place until replacement roofing has been completed.

- B. Shut down air intake equipment in the vicinity of the Work in coordination with the Owner. Cover air intake louvers before proceeding with coating work that could affect indoor air quality or activate smoke detectors in the ductwork.
 - 1. Verify that rooftop utilities and service piping affected by the Work have been shut off before commencing Work.
- C. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 - 1. Do not permit water to enter into or under existing membrane roofing system components that are to remain.

3.3 ROOFING COATING PREPARATION

- A. Removal of Wet Insulation: Remove portions of roofing membrane with underlying wet insulation. Remove wet insulation, fill in tear-off areas to match existing insulation and membrane, and prepare patched membrane for application of roof coating as specified below.
- B. Membrane Surface Preparation:
 - 1. Remove walkway pads and pavers from roofing membrane. Discard damaged pavers. Salvage pavers and accessories for reuse.
 - 2. Substrate Cleaning: Clean substrate in accordance with requirements of Division 07 01 50.16 "Maintenance Cleaning of Membrane Roofing."
 - 3. Verify that existing substrate is dry before proceeding with application of coating. Spot check substrates with an electrical capacitance moisture-detection meter.
 - 4. Verify adhesion of new products.
- C. Existing Flashing and Detail Preparation: Repair flashings, gravel stops, copings, and other roof-related sheet metal and trim elements. Reseal joints, replace loose or missing fasteners, and replace components where required to leave in a watertight condition.
 - 1. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish.
 - 2. Roof Drains: If drains/clamp rings are not noted to be replaced in drawings then remove drain strainer and clamping ring. Grind metal surfaces down to clean, bare, metal.
- D. Surface Priming: Prime surfaces to receive fluid-applied coating using coating manufacturer's recommended product for surface material. Apply at application rate recommended by manufacturer.
 - 1. Ensure primer does not puddle and substrate has complete coverage.
 - 2. Allow to cure completely prior to application of coating.

- E. Membrane Repair: Repair membrane at locations with irregularities using seam sealer mastic and reinforcing fabric.

3.4 FLUID-APPLIED FLASHING APPLICATION

- A. Fluid-Applied Flashing and Detail Base Coat Application: Complete base coat and fabric reinforcement at parapets, curbs, penetrations, and drains prior to application of field of fluid-applied membrane. Apply base coat in accordance with manufacturer's written instructions.
 - 1. Apply base coat on prepared and primed surfaces and spread coating evenly. Extend coating minimum of 8 inches (200 mm) up vertical surfaces and 4 inches (100 mm) onto horizontal surfaces.
 - 2. Back roll to achieve minimum coating thickness indicated on Part 2 product listing, unless greater thickness is recommended by manufacturer; verify thickness of base coat as work progresses.
 - 3. Reinforcing Fabric: Embed fabric reinforcement into wet base coat. Lap adjacent flashing pieces of fabric minimum 3 inches (75 mm) along edges and 6 inches (150 mm) at end laps.
 - a. Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.
 - 4. Roof Drains: Install base coat onto surrounding membrane surface and metal drain bowl flange. Install target piece of fabric reinforcement immediately into wet base coat and roll to fully embed and saturate fabric. Reinstall clamping ring and strainer following application of top coat. Replace broken drain ring clamping bolts.

3.5 FLUID-APPLIED MEMBRANE APPLICATION

- A. Fluid-Applied Membrane Base Coat: Apply base coat to field of membrane in accordance with manufacturer's written instructions.
 - 1. Apply base coat on prepared and primed surfaces and spread coating evenly.
 - 2. Back roll to achieve minimum coating thickness indicated on Part 2 product listing, unless greater thickness is recommended by manufacturer; verify thickness of base coat as work progresses.
 - 3. Fabric Reinforcement: Embed fabric reinforcement into wet base coat. Lap adjacent pieces of fabric minimum 3 inches (75 mm) along edges and 6 inches (150 mm) at end laps.
 - a. Roll surface of fabric reinforcing to completely embed and saturate fabric. Leave finished base coat with fabric free of pin holes, voids, or openings.
- B. Fluid-Applied Membrane Top Coat: Apply top coat to field of membrane and flashings uniformly in a complete, continuous installation.
 - 1. Allow base coat to cure prior to application of top coat.

2. Following curing of base coat and prior to application of top coat, sand raised or exposed edges of fabric reinforcement.
3. Prime base coat prior to application of top coat if top coat is not applied within 72 hours of the base coat application, using manufacturer's recommended primer.
4. Apply top coat extending coating up vertical surfaces and out onto horizontal surfaces. Install top coat over field base coat and spread coating evenly.
5. Back roll to achieve minimum coating thickness indicated on Part 2 product listing, unless greater thickness is recommended by manufacturer; verify thickness of base coat as work progresses.
6. Avoid foot traffic on new fluid-applied membrane for a minimum of 24 hours.

3.6 WALKWAY INSTALLATION

- A. Install walkways following application of coating. Locate as indicated, or as directed by Owner.
- B. Slip-Resistant Walkway Topcoat: Apply walkway second topcoat following application and curing of top coat. Locate as indicated on Drawings.
 1. Mask walkway location with tape.
 2. Prime first top coat prior to application of walkway top coat if walkway top coat is not applied within 72 hours of the first top coat application, using manufacturer's recommended primer.
 3. Apply walkway topcoat and back roll to achieve minimum coating thickness indicated on Part 2 product listing, unless greater thickness is recommended by manufacturer; verify thickness of base coat as work progresses.
 4. Broadcast Slip-Resistant Top Coat Aggregate in wet top coat at rate indicated in Part 2 product listing or as otherwise recommended by coating manufacturer.
 - a. Back roll aggregate and top coat creating even dispersal of aggregate. Remove masking immediately.

3.7 FIELD QUALITY CONTROL

- A. Roofing Inspector: Owner will engage a qualified roofing inspector to perform roof tests and inspections and to prepare test reports.
- B. Roof Inspection: Contractor shall engage roofing system manufacturer's technical personnel to inspect roofing installation, and submit report. Notify Architect 48 hours in advance of dates and times of inspections. Inspect work as follows:
 1. Upon completion of preparation of first component of work, prior to application of re-coating materials.
 2. Following application of re-coating to flashings and application of base coat to field of roof.

3. Upon completion of re-coating but prior to re-installation of other roofing components.
 - C. Repair fluid-applied membrane where test inspections indicate that they do not comply with specified requirements.
 - D. Arrange for additional inspections, at Contractor's expense, to verify compliance of replaced or additional work with specified requirements.

3.8 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period.
- B. Correct deficiencies in or remove coating that does not comply with requirements, repair substrates, and reapply coating.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 01 50.74

SECTION 07 54 16 - KETONE ETHYLENE ESTER (KEE) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Adhered thermoplastic KEE roofing system on wood deck, including:
2. Roof insulation.
3. Roof insulation cover board.
4. Walkway material.

B. Related Sections:

1. Division 07 62 00 "Sheet Metal Flashing and Trim" for shop-formed sheet metal items including roof drainage system items, roof penetration flashings, base and counterflashings and reglets, and formed copings and roof edge metal items.

1.2 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 "Standard Terminology Relating to Roofing and Waterproofing" and glossary in applicable edition of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" for definition of terms related to roofing work in this Section.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review drawings and specifications.
3. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
4. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
5. Examine substrate conditions and finishes for compliance with requirements, including flatness and fastening.
6. Review structural loading limitations of roof deck during and after roofing.
7. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.

8. Review governing regulations and requirements for insurance and certificates if applicable.
9. Review temporary protection requirements for roofing system during and after installation.
10. Review roof observation and repair procedures after roofing installation.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Sustainable Design Submittals:
 1. Product Test Reports for Solar Reflectance: For roof materials, indicating that roof materials comply with Solar Reflectance Index requirement.
 2. Product Data and Laboratory Test Reports: For adhesives and sealants, indicating compliance with requirements for low-VOC/low-emitting materials.
- C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
 1. Base flashings and membrane terminations.
 2. Tapered insulation, including slopes and crickets.
 3. Roof plan showing types and orientation of roof deck and orientation of membrane roofing and fastening spacings and patterns for mechanically fastened membrane roofing if applicable.
 4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- D. Samples for Verification: For the following products:
 1. Sheet roofing, of color specified, including T-shaped side and end lap seam.
 2. Walkway pads or rolls.
- E. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Product Certificate: Submit certificate, indicating products intended for Work of this Section, including product names and numbers and manufacturers' names, with statement indicating that products to be provided meet the requirements of the Contract Documents.
- B. Qualification Data: For Installer, Manufacturer and Roofing Inspector.
 1. Include letter from Manufacturer written for this Project indicating approval of Installer.

- C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - 1. Submit evidence of compliance with performance requirements.
 - a. Include: UL listing certificate.
 - 2. Product Compatibility: Indicate manufacturer has verified compatibility of roofing system components, including but not limited to: Roofing membrane, flashing sheets, adhesives, and sealants.
- D. Warranties: Unexecuted sample copies of special warranties.
- E. Inspection Reports: Reports of Roofing Inspector. Include weather conditions, description of work performed, tests performed, defective work observed, and corrective actions taken to correct defective work.
 - 1. Submit reports within 48 hours after inspection.

1.6 CLOSEOUT SUBMITTALS

- A. Executed copies of warranties.
- B. Maintenance Data: To include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with experience with roofing installations similar to this project and with a record of successful in-service performance, able to communicate verbally with Contractor, Architect, and employees, and qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
- B. Manufacturer Qualifications: Approved manufacturer listed in this Section, UL listed for roofing systems comparable to that specified for this Project, with a record of in-service performance in manufacture of thermoplastic roof membrane products in successful use in similar applications.
 - 1. Approval of Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
 - a. Product data, including certified independent test data indicating compliance with requirements.
 - b. Samples of each component.
 - c. Sample submittal from similar project.
 - d. Project references: Minimum of five installations of specified products, with Owner and Architect contact information.
 - e. Sample warranty.

2. Approved manufacturers must meet separate requirements of Submittals Article.
- C. Roofing Inspector Qualifications: A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:
1. An authorized full-time technical employee of the manufacturer.
 2. An independent party certified as a Registered Roof Observer by the International Institute of Building Enclosure Consultants (formerly the Roof Consultants Institute) retained by the Contractor or the Manufacturer and approved by the Manufacturer.
- D. Manufacturer's Installation Instructions: Obtain and maintain on-site access to manufacturer's written recommendations and instructions for installation of products.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.9 PROJECT / FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- B. Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
1. Provide tie-offs at end of each day's work to cover exposed roofing and insulation with a course of roofing sheet securely in place with joints and edges sealed.

2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.
3. Remove temporary plugs from roof drains at end of each day.
4. Remove and discard temporary seals before beginning work on adjoining roofing.

1.10 WARRANTY

- A. Manufacturer's Warranty: Roof System Manufacturer's standard form in which Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within warranty period, as follows.
 1. Form of Warranty: Manufacturer's standard warranty form.
 2. Scope of Warranty: Work of this Section and including sheet metal details and termination details installed by the roof system Installer and approved by the Roof System Manufacturer.
 3. Warranty Period: 30 years from date of completion.
- B. Manufacturer Inspection Services: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's inspections is included in the Contract Sum.
 1. Inspections to occur in following years: 2, 5, 10, 15, 20 and 25 following completion.
- C. Installer Warranty: Installer's warranty signed by Installer, as follows.
 1. Form of Warranty: Form acceptable to Roofing Manufacturer and Owner.
 2. Scope of Warranty: Work of this Section.
 3. Warranty Period: 5 years from date of completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: The roof system specified in this Section is based upon products of Tremco CPG Inc, Beachwood, OH, (800) 562-2728, www.tremcoroofing.com that are named in other Part 2 articles. Provide specified products.
 1. Manufacturers of comparable products: Johns Manville, Sika USA, FiberTite, or approved equal prior to bid.
 2. Must Meet ASTM D-6754 requirements for KEE membrane system.
 3. Provide project references of similar size and scope.
 4. Provide copies of UL Class A Fire Rating for unlimited slope over a combustible deck, and required project wind uplift rating.

- B. Source Limitations: Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
 - 1. Accelerated Weathering: Roofing system shall withstand 10,000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
 - 2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746/D3746M, ASTM D4272/D4272M, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.
- B. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency in accordance with ANSI/FM 4474, UL 580, or UL 1897, and to resist uplift pressures calculated in accordance with ASCE-7 and applicable code.
- C. SPRI Wind Design Standard: Manufacture and install copings and roof-edge flashings tested according to ANSI/SPRI ES-1.
 - 1. Design Pressure: As indicated on Drawings.
- D. Flashings and Fastening: Provide base flashings, perimeter flashings, detail flashings and component materials and installation techniques that comply with requirements and recommendations of the following:
 - 1. FM Global 1-49: Loss Prevention Data Sheet for Perimeter Flashings.
 - 2. FM Global 1-29: Loss Prevention Data Sheet for Above Deck Roof Components.
 - 3. NRCA Roofing Manual (Sixth Edition) for construction details and recommendations.
 - 4. SMACNA Architectural Sheet Metal Manual (Seventh Edition) for construction details.
 - 5. Comply with requirements of Division 07 62 00 "Sheet Metal Flashing and Trim".
- E. Exterior Fire-Test Exposure: ASTM E108, Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.
- F. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.
- G. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E1980, based on testing identical products by a qualified testing agency.

- H. Energy Performance: Roofing system shall have an initial solar reflectance index of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.

2.3 MATERIALS, GENERAL

- A. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- B. FM Global Standards: Roofing, base flashings, and component materials shall be identical to materials that comply with requirements in FM Global 4470 as part of a roofing system listed or approved by FM Global. Identify applicable materials with FM Global markings.

2.4 THERMOPLASTIC MEMBRANE MATERIALS

A. KEE Roof Membrane:

1. Thermoplastic Ketone Ethylene Ester (KEE) coated polyester fabric-reinforced sheet, ASTM D6754.
 - a. Basis of design product: Tremco, TremPly KEE Single Ply Roof Membrane. Or approved equal.
 - b. Breaking Strength, minimum, ASTM D751: Machine direction, 500 lbf/in (87 kN/m); Cross machine direction, 400 lbf/in (70 kN/m).
 - c. Tear Strength, minimum, ASTM D751: Machine direction, 120 lbf (162 N/m); Cross machine direction, 140 lbf (190 N/m).
 - d. Elongation at Break, ASTM D751: 20 percent.
 - e. Dynamic Impact/Puncture Resistance, ASTM D5635: 30 J, minimum.
 - f. Minimum Membrane Thickness, nominal, less backing, ASTM D751: 60 mils (1.5 mm).
 - g. Thickness over fiber, optical method: 0.014 inches (0.355 mm).
 - h. Accelerated Weathering, ASTM G155 and ASTM G154: Not greater than 15,000 hr., no cracking or crazing.
 - i. Abrasion Resistance, ASTM D3389: Not greater than 2,000 cycles, H-18 wheel, 1,000 g load.
 - j. Color: White.
 - k. Solar Reflectance Index (SRI), ASTM E1980: 110 (White, initial), 86 (White, 3-yr aged).

- B. Sheet Flashing: Manufacturer's standard, smooth-backed, sheet flashing of same material, type, reinforcement, thickness and color as KEE roof membrane.

2.5 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.
1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- B. Membrane Bonding Adhesive:
1. Bonding adhesive, waterborne low-VOC, for bonding KEE fleece-backed single ply membranes and flashings to substrates.
 - a. Basis of design product: Tremco, TremPly KEE FB WBII Bonding Adhesive. Or approved equal.
 - b. VOC, maximum, ASTM D3960: 153 g/L.
- C. Flashing Membrane Adhesive:
1. Bonding adhesive, solvent based fast drying, VOC-compliant, for bonding KEE smooth-backed single ply membranes and flashings to substrates.
 - a. Basis of design product: Tremco, TremPly KEE LV Bonding Adhesive. Or approved equal.
 - b. VOC, maximum, ASTM D 3960: 200 g/L.
- D. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 mm by 3 mm) thick; with anchors.
- E. Joint Sealant: Elastomeric joint sealant compatible with roofing materials, with movement capability appropriate for application.
1. Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.
 - a. Basis of design product: Tremco, TremSEAL Pro. Or approved equal.
 - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 40 g/L.
 - c. Hardness, Shore A, ASTM C661: 40.
 - d. Adhesion to Concrete, ASTM C794: 35 pli.
 - e. Tensile Strength, ASTM D412: 350 psi (2410 kPa).
 - f. Color: White.
- F. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.

- G. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.6 ROOF INSULATION MATERIALS

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from insulation manufacturer's standard sizes, suitable for application, and of thicknesses indicated.
1. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated, not less than two times the roof slope.
- B. Roof Insulation: Provide roof insulation product in thicknesses indicated in Part 3 as follows:
1. Board Insulation, Polyisocyanurate: CFC- and HCFC- free, with recycled content glass-fiber mat facer on both major surfaces, ASTM C1289 Type II Class 1.
 - a. Compressive Strength, ASTM D1621: Grade 2: 20 psi (138 kPa).
 - b. Conditioned Thermal Resistance at 75 deg. F (24 deg. C): 14.4 at 2.5 inches (50.8 mm) thick.

2.7 ROOF INSULATION ACCESSORIES

- A. Cover Board:
1. Gypsum panel, glass-mat-faced, primed, ASTM C1177/C1177M.
 - a. Basis of design product: GP Gypsum DensDeck Prime. Or approved equal.
 - b. Thickness: 1/2 inch (12 mm).
- B. Roof Insulation Adhesive:
1. Urethane adhesive, bead-applied, low-rise two-component solvent-free low odor, formulated to adhere roof insulation to substrate.
 - a. Basis of design product: Tremco, Low Rise Foam Insulation Adhesive. Or approved equal.
 - b. Flame Spread Index, ASTM E84: 10.
 - c. Smoke Developed Index, ASTM E84: 30.
 - d. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 0 g/L.
 - e. Tensile Strength, minimum, ASTM D412: 250 psi (1720 kPa).
 - f. Peel Adhesion, minimum, ASTM D903: 17 lbf/in (2.50 kN/m).

- g. Flexibility, 70 deg. F (39 deg. C), ASTM D816: Pass.
- C. Insulation Cant Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.
- D. Wood Cant Strips: Comply with requirements in Division 06 rough carpentry Section.
- E. Tapered Edge Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.
- F. Substrate Joint Tape: 6- or 8-inch- (150- or 200-mm-) wide, coated, glass fiber.
- G. Insulation Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

2.8 WALKWAY MATERIALS

- A. Walkway / Protection Mat Material:
 - 1. Walkway roll, reinforced PVC/TPA membrane roll with serrated slip-resistant surface, fabricated for heat welding to compatible PVC/TPA membrane surface.
 - a. Basis of design product: Tremco, TPA Walkway Roll. Or approved equal.
 - b. Roll Size: 36 inches by 60 foot (914 mm by 18.3 m).
 - c. Thickness / Color: Yellow, 0.156 inch (4 mm).
 - d. Tensile, Grab ASTM D751: 200 lbf (890 N).
 - e. Tear Strength, Tongue : 45 lbf (200N).
 - f. Low Temp Flex: -40 deg F. (-40 deg C.).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:
 - 1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
 - 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 - 3. Existing Prepared Roof Substrate: Verify that existing insulation and substrate is sound and dry. Refer to requirements of Division 07 Section "Preparation for Re-Roofing."
 - 4. Wood Roof Deck: Verify that deck is sound and dry and securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSTALLATION, GENERAL

- A. Install roofing system in accordance with manufacturer's written instructions and approved details.
- B. NRCA Installation Details: Install roofing system in accordance with applicable NRCA Manual Plates and NRCA recommendations; modify as required to comply with manufacturer's approved details and perimeter fastening requirements of FM Global references if applicable.

3.4 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Tapered Insulation and Crickets: Install tapered insulation under area of roofing to conform to slopes indicated.
 - 1. Where crickets are indicated or required to provide positive slope to drain, make slope of crickets minimum of two times the roof slope, not less than 1/4 inch in 12 inches (1:48).
- D. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (70 mm) or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.
 - 1. Insulation Drain Sumps: Tapered insulation sumps, not less than 2 by 2 ft. (600 by 600 mm), sloped to roof drain; sump to maximum depth of not more than 1 inch (25 mm) less than the Project-stipulated continuous insulation thickness based upon code requirements.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - 1. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
- G. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.
 - 1. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.
- H. Cover Boards: Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction. Loosely butt cover boards together.
 - 1. Secure cover boards to resist uplift pressure at corners, perimeter, and field of roof.
 - 2. Adhere cover boards by setting in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining cover board in place.

3.5 ADHERED MEMBRANE ROOFING INSTALLATION

- A. Adhere membrane roofing over area to receive roofing and install according to membrane roofing system manufacturer's written instructions.
- B. Start installation of membrane roofing in presence of membrane roofing system manufacturer's technical personnel.
- C. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- D. Water-Based Bonding Adhesive: Apply to substrate at rate required by manufacturer. Install membrane immediately into adhesive, avoiding any air entrapment; do not allow adhesive to dry. Roll membrane into wet adhesive. Do not apply adhesive to splice area of membrane.
- E. In addition to adhering, mechanically fasten membrane roofing securely at terminations, penetrations, and perimeter of roofing.
- F. Apply membrane roofing with side laps shingled with slope of roof deck where possible.
- G. Welded Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane.
 - 2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
 - 3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.

- H. Spread sealant bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Seal top termination of base flashing with a metal termination bar and a continuous bead of joint sealant.

3.7 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

- A. Roofing Inspector: Contractor shall engage a qualified roofing inspector to perform roof tests and inspections and to prepare test reports.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 54 16

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM**PART 1 - GENERAL****1.1 SUMMARY****A. Section includes:**

1. Roof drainage sheet metal fabrications.
2. Low-slope roof sheet metal fabrications.
3. Formed wall sheet metal fabrications.
4. Formed equipment support flashing.
5. Miscellaneous sheet metal flashing and trim.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 075416 "Ketone Ethylene Ester (KEE) Roofing" for materials and installation of sheet metal flashing and trim integral with roofing.

1.2 COORDINATION

- A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.
- B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

1.3 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 each manufactured product and accessory.

B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field assembled work.
3. Include identification of material, thickness, weight, and finish for each item and location in Project.
4. Include details for forming, including profiles, shapes, seams, and dimensions.
5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
6. Include details of termination points and assemblies.
7. Include details of special conditions.
8. Include details of connections to adjoining work.
9. Indicate details meet requirements of SMACNA and NRCA required by this Section.
10. Detail formed flashing and trim at a scale of 3 inches per 12 inches.

- C. Sustainable Design Submittals:
 - 1. Show a minimum of 25% post-consumer recycled content.
- D. Samples for initial selection: For each type of sheet metal and accessory indicated with factory applied finishes.
- E. Samples for Verification: For each type of exposed finish.
 - 1. Sheet Metal Flashing: 12 inches long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.

1.4 INFORMATIONAL SUBMITTALS

- A. Contractor's Product Certificates: For each type of coping and roof edge flashing that is ANSI/SPRI ES-1 tested.
- B. Qualification Data: For fabricator.
- C. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Warranties: Manufacturer's executed warranty documents. Submit prior to acceptance of Work.
- B. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
 - 1. For copings and roof edge flashings that are ANSI/SPRI ES-1 tested; fabrication shop shall be listed as able to fabricate required details as tested and approved.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.8 WARRANTY

- A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Flashings and Fastening: Comply with requirements of Division 07 roofing sections. Provide base flashings, perimeter flashings, detail flashings and component materials and installation techniques that comply with requirements and recommendations of the following:
 1. FM Global 1-49: "Property Loss Prevention Data Sheet for Perimeter Flashings."
 2. FM Global 1-29: "Property Loss Prevention Data Sheet for Above Deck Roof Components."
 3. NRCA: "The NRCA Roofing Manual" for construction details and recommendations.
- D. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested in accordance with ANSI/SPRI/FM 4435/ES-1.
 1. Design Pressure: Basic wind speed (Ultimate): 97mph. Exposure: C. Risk Category: III. Design Load: 20psf.
- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.
 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A653/A653M, G90 (Z275) coating designation or aluminum-zinc alloy-coated steel sheet according to ASTM A792/A792M, Class AZ50 (Class AZM150) coating designation, Grade 40

(Grade 275); with smooth, flat surface; prefinished by coil-coating process to comply with ASTM A755/A755M.

1. Basis of Design Product: Tremco, Inc., TremLock Sheet. Or approved equal.
 2. Exposed Coil-Coated Finish:
 - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 - 1) Color: As selected from manufacturer's full range.
 - 2) Surface: Smooth, flat.
 3. Exposed Metallic Finish: Galvalume Plus.
 - a. Surface: Smooth, flat.
 4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil (0.013 mm).
- C. PVC/KEE-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A653/A653M, G90 (Z275) coating designation; prefinished with non-reinforced PVC/KEE membrane; for formed roof edge flashings to receive heat-weldable, compatible with single-ply membrane roofing specified in Division 07 54 16 "Ketone Ethylene Ester (KEE) Roofing."
1. Basis-of-Design Product: Tremco, Tremply KEE/TPA Coated Metal. Or approved equal.
 2. Sheet Metal Thickness: Zinc-coated steel, nominal 0.028-inch/24 ga. thickness.
 3. Finish: Laminated with 0.020 inch/20 mil thick, unreinforced PVC/KEE membrane on exposed side and finished with clear acrylic coating on non-exposed side.
 - a. Color: Match color of roof membrane specified in Division 07 54 16 "Ketone Ethylene Ester (KEE) Roofing."
- D. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.
1. Exposed Coil-Coated Finish:
 - a. Three-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
 2. Color: From manufacturer's full range, including premium colors.
 3. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil.

2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
- B. Self-Adhering, High-Temperature Sheet: Minimum 30 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
 - 1. Low-Temperature Flexibility: ASTM D1970; passes after testing at minus 20 deg F or lower.
 - 2. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
 - 3. 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. Carlisle Coatings & Waterproofing Inc.
 - b. GCP Applied Technologies Inc. (formerly Grace Construction Products).
 - c. Henry Company.
 - d. Owens Corning.
 - e. Protecto Wrap Company.
 - f. Or approved equal.
- C. Slip Sheet: Smooth building paper such as rosin-sized or unsaturated building paper.

2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 - 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head. Unless otherwise noted in drawings.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
 - 2. Fasteners for Zinc-Coated(Galvanized) and Aluminum-Zinc Alloy-Coated Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel according to ASTM A153/A153M or ASTM F2329.

3. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
- C. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- D. Elastomeric Sealant: ASTM C920, elastomeric polyurethane at concealed joints and silicone at exposed joints; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- E. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

2.5 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 2. Obtain field measurements for accurate fit before shop fabrication.
 3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
 1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
 2. Use lapped expansion joints only where indicated on Drawings.
- D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.

- G. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
- H. Do not use graphite pencils to mark metal surfaces.

2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch-long, but not exceeding 12-feet-long sections. Shop fabricate interior and exterior corners.
 - 1. Joint Style: Butted with expansion space and 6-inch-wide, concealed splice plate.
 - 2. Fabricate from the Following Materials:
 - a. Galvanized Steel or Aluminum-Zinc Alloy-Coated Steel: 0.028 inch/24 ga. thick.
- B. Copings: Fabricate in minimum 96-inch-long, but not exceeding 12-feet-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and drill elongated holes for fasteners on interior leg. Miter corners, fasten and seal watertight. Shop fabricate interior and exterior corners.
 - 1. Coping Profile: As indicated, or if not indicated, as selected from SMACNA Manual profiles.
 - 2. Joint Style: Butted with expansion space and 6-inch-wide, concealed splice plate.
 - 3. Fabricate from the Following Materials:
 - a. Factory painted Galvanized Steel or Aluminum-Zinc Alloy-Coated Steel: 0.028 inch/24 ga. Thick, unless otherwise noted in drawings.
- C. Cleats for Roof Edge Flashing and Copings:
 - 1. Galvanized Steel or Aluminum-Zinc Alloy-Coated Steel: 0.034 inch/22 ga. thick.
- D. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
 - 1. Galvanized Steel or Aluminum-Zinc Alloy-Coated Steel: 0.028 inch/24 ga. Thick, unless otherwise noted in drawings.

2.7 MISCELLANEOUS SHEET METAL FABRICATIONS

- A. Equipment Support Flashing: Fabricate from the following materials:
 - 1. Galvanized Steel: 0.028 inch/24ga. thick, unless otherwise noted.

PART 3 - EXECUTION

3.1 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.

3.2 INSTALLATION, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 - 1. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 - 2. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
 - 1. Coat concealed side of uncoated-aluminum and stainless steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
 - 2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
 - 1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg.

2. Prepare joints and apply sealants to comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions.

3.3 ROOF FLASHING INSTALLATION

- A. Install sheet metal flashing and trim to comply with performance requirements and cited sheet metal standard.
 1. Provide concealed fasteners where possible, and set units true to line, levels, and slopes.
 2. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing:
 1. Install roof edge flashings in accordance with ANSI/SPRI/FM 4435/ES-1.
- C. Copings:
 1. Install copings in accordance with ANSI/SPRI/FM 4435/ES-1.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing.
 1. Insert counterflashing in reglets or receivers and fit tightly to base flashing.
 2. Extend counterflashing 4 inches over base flashing.
 3. Lap counterflashing joints minimum of 4 inches.

3.4 MISCELLANEOUS FLASHING INSTALLATION

- A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

3.5 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.6 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder.

- C. Clean off excess sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.
- E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 62 00

SECTION 07 84 13 – PENETRATION FIRESTOPPING**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SYSTEM DESCRIPTION

- A. Provide UL Classified or Warnock Hersey Listed firestopping system to prevent the spread of fire, smoke and gasses through penetrations in fire resistive walls, floors and partitions, including; but not limited to; the following areas:
 - 1. Unprotected openings and openings accommodating penetrating items such as cables, cable trays, boxes and conduits through fire rated floors, walls and smoke barriers.
- B. Firestop systems shall not be intended to support live loads and traffic unless specifically approved by Testing Agency.
- C. Firestop systems shall be approved by Code Authority.
- D. Firestop products shall remain flexible where subject to movement without affecting the integrity of the product.
- E. Until routing of electrical system from first floor electrical room to fin lighting is confirmed in the field it is unknown how many, if any, firestopping will be required. For bid purposes provide price for two floor penetrations and two wall penetrations.

1.3 SUBMITTALS

- A. Product Data: Submit Manufacturer's Specifications, performance criteria, Drawings and instructions.
- B. Shop Drawings: Submit Manufacturer's complete Shop Drawings showing proposed material, reinforcement, anchorage, fastenings method of installation and UL or Warnock Hersey listing number.
- C. Test Reports: Submit UL or Warnock Hersey test report description for firestopping system.
- D. Provide certificate of compliance from authority having jurisdiction indicating approval of firestop systems.

1.4 QUALITY ASSURANCE

- A. Qualifications: Applicator with a successful record of installing specified product.
- B. Regulatory Requirements: Conform to applicable code for fire resistance ratings and surface burning characteristics:
 - 1. ASTM E 136, ASTM E 119 and ASTM E 814, as applicable.
 - 2. UL 1479 fire test to achieve required fire-rating as noted on Drawings.
 - 3. Listing:
 - a. UL Fire Resistance Directory (current edition).
 - b. WH International Listings
- C. Pre-Installation Conference:
 - 1. Convene a pre-installation conference to review specifications and procedures with the Architect and Resident Engineer, Contractor, installer, manufacturer's representative, Owner and other trades relevant to the work, prior to ordering materials.
 - 2. Notify Owner's Representative and Resident Engineer at least 48 hours prior to starting

Work.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Packing and Shipping: Deliver materials to site in Manufacturer's original unopened packaging with labels intact.
- B. Storage: Adequately protect against damage while stored at the site.
- C. Handling: Comply with Manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Furnish firestop systems acceptable to governing Code Authority from one of the following Manufacturers, subject to compliance with Specification requirements:
 - 1. U.S. Gypsum Co. www.usg.com
 - 2. Johns-Manville www.jm.com
 - 3. Tremco, Inc. www.tremcosealants.com
 - 4. RectorSeal Corporation www.recotrseal.com
 - 5. 3M Fire Protection Products www.3m.com
 - 6. Specified Technologies, Inc. www.stifirestop.com
 - 7. HILTI Firestop Systems www.hilti.com
 - 8. Nelson Firestop Products www.nelsonfirestop.com
 - 9. Grace Construction Products – Flamesafe www.grace.com
 - 10. Or Approved Equal.

2.2 MATERIALS

- A. Firestop System Materials - General:
1. Appropriate for penetration.
 2. Include every component required for code approved installation, including; but not limited to:
 - a. Firestopping putties or compound.
 - b. Backing material.
 - c. Wrap strips.
 - d. Primers, clips and collars.
 - e. Forming and damming materials.
 - f. Sealant and solvent cleaner. At interior applications, provide sealant in accordance with the low-emitting materials requirements of the California Building Code.
- B. Properties:
1. Free of asbestos, halogens and volatile components after curing and shall not slump or sag, (except for self-leveling products).
 2. Capable of maintaining an effective barrier against flames, heat and smoke in compliance with the requirements of ASTM E814, UL 1479 and U.B.C. Standard 7-5.
 3. Non-combustible per ASTM E 136.
 4. UV resistant where exposed to sunlight.
 5. Water resistant where exposed to moisture.
 6. Firestop system shall accommodate movement without adversely affecting fire rating of wall/floor assembly.
 7. Shrink resistant.
 8. Paintable or capable of receiving finish materials in those areas which are exposed to view and which are scheduled to receive finishes.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine subsurfaces to receive Work and report detrimental conditions in writing to Architect and Resident Engineer. Commencement of Work will be construed as acceptance of subsurfaces.
- B. Coordination: Coordinate with other Work which affects, connects with, or will be concealed by this Work.

3.2 PREPARATION

- A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter which may affect bond of firestopping material.
- B. Remove incompatible materials which affect bond.

- C. Install backing materials to arrest liquid material leakage, if required.

3.3 INSTALLATION

- A. Installation shall conform to requirements of qualified designs or manufacturer approved modifications as supported by engineering reports, and shall be approved and accepted by the authority having jurisdiction.

1. Apply primer and firestop materials in accordance with Manufacturer's instructions and in accordance with the appropriate UL Fire Resistance Directory or with the appropriate Warnock Hersey International Listing.
2. Apply firestopping material in sufficient thickness to achieve rating, to ensure against the passage of flames, smoke and toxic gases, and to a uniform density and texture.
3. Protect materials from damage on surface subjected to traffic and install cover plates as required on firestop system that will or may be subject to traffic.
4. Tool surfaces of firestop products to provide a smooth and clean appearance.

- B. Provide firestopping for conditions specified whether or not firestopping is indicated, and, if indicated, whether such material is designated as insulation, safing or otherwise. Insulation types specified in other sections shall not be installed in lieu of firestopping materials.

- C. Building Exterior Perimeters:

1. Where exterior facing construction is continuous past a structural floor, and a space (i.e. construction joint) would otherwise remain open between the inner face of the wall construction and the outer perimeter edge of the structural floor, provide firestopping to equal the fire resistance of the floor assembly.
2. Mineral wool by itself shall not constitute an acceptable firestop. If mineral wool is part of firestop system, the mineral wool shall be completely covered by appropriate thickness of UL or Warnock Hersey listed firestop sealant.
3. Firestopping shall be provided whether or not there are any clips, angles, plates, or other members bridging or interconnecting the facing and floor systems, and whether or not such items are continuous.
4. Provide firestopping to continuously fill open spaces where an exterior wall of composite type construction passes a perimeter structural member, such as a girder, beam or strut, and the finish on the interior wall face does not continue up to close with the underside of the structural floor above, thus interrupting the fire-resistant integrity of the wall system, and creating a space that would otherwise remain open between the interior face of the wall and lower edge of the structural members.

- D. Penetrations:

1. Penetrations include conduit, cable, wire, or other elements which pass through one or both outer surfaces of a fire rated floor, wall, or partition.
2. Provide firestopping to fill spaces in accordance with ASTM E 814 (UL 1479) where a penetration occurs through a structural floor or roof and a space would otherwise remain open between the surfaces of the penetration and the edge of the adjoining structural floor or roof, except at floors on grade.

3. Requirements for penetrations shall apply whether or not sleeves have been provided. Firestop the annular space between sleeve and surrounding surfaces.

3.4 CLEANING

- A. During the course of the Work and on completion, remove and dispose of excess materials, equipment and debris away from premises. Leave Work in clean condition.

END OF SECTION 07 84 13

SECTION 07 92 00 - JOINT SEALANTS

1.1 SUMMARY

- A. Section Includes:
 - 1. Nonstaining silicone joint sealants.
 - 2. Urethane joint sealants.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product. Indicate VOC content of sealants.
- 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.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency.
- B. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements and are suitable for the use indicated.
- C. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

1.6 PRECONSTRUCTION TESTING

- A. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials matching those submitted.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, and curing time.
- B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.8 FIELD 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 or are below 40 deg F.
 - 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.

1.9 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Manufacturer's standard.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 - 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 - 2. Disintegration of joint substrates from causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.

4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, 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.
- B. **Elastomeric Sealant Standard:** Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant in the Elastomeric Joint-Sealant Schedule at the end of Part 3, including those referencing ASTM C 920 classifications for type, grade, class, and uses.
- C. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

2.2 NONSTAINING SILICONE JOINT SEALANTS

- A. **Nonstaining Joint Sealants:** No staining of substrates when tested according to ASTM C 1248.
- B. **Silicone, Nonstaining, S, NS, 50, NT:** Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.
 1. **Manufacturers:** Subject to compliance with requirements, provide products by one of the following:
 - a. Dow Corning Corporation.
 - b. Pecora Corporation.
 - c. Tremco Incorporated.
 - d. Or Approved Equal.

2.3 URETHANE JOINT SEALANTS

- A. **Urethane, S, NS, 25, T, NT:** Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Uses T and NT.
 1. **Manufacturers:** Subject to compliance with requirements, provide products by one of the following:
 - a. BASF / Sonneborn Corporation.
 - b. Sika Corporation.
 - c. Tremco Incorporated.
 - d. Or Approved Equal.

2.4 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and 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.

2.5 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 performance of the Work.
- 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. Exterior cement plaster.
 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. Metal.
- 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, remove, and repair 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 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. Joints between metal panels.
 - d. Joints between different materials listed above.
 - e. Perimeter joints between materials listed above and frames of doors windows and louvers.
 - f. Control and expansion joints in ceilings and other overhead surfaces.
 - g. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicone, nonstaining, Type S, Grade NS, Class 50, Use NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07 92 00

SECTION 09 24 00 – REPAIR OF HISTORIC STUCCO**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Exterior vertical plasterwork (stucco).
 - 2. Exterior horizontal and nonvertical plasterwork (stucco).
 - 3. Repair techniques and testing for historic plasterwork (stucco).

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: At Contractor's expense engage a qualified testing agency to perform preconstruction testing on stucco material as follows.
 - 1. Existing Stucco: Test according to ASTM C 1324-10, modified as agreed by testing service and Owner's representative for project requirements, to determine proportional composition of original ingredients, sizes and colors of aggregates, prepare a mix design for replacement stucco, and identify appropriate sources for sand aggregate. Use petrographic, wet chemical and microscopical methods. Carefully remove existing stucco at five locations designated by architect. Patch areas as part of work.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Sustainable Design Submittals: Product Data for recycled content, indicating postconsumer and preconsumer recycled content and cost.
- C. Mix Design: For patching stucco substantiating compatibility and match with historic stucco.
- D. Shop Drawings: Show locations and installation of control and expansion joints, including plans, elevations, sections, details of components, and attachments to other work.

- E. Samples: For each type of factory-prepared finish coat and for each color and texture specified.
- F. Samples for Verification: For each type of factory-prepared finish coat and for each color and texture specified, 12 by 12 inches, and prepared on rigid backing.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For stucco restoration specialists including field supervisors and restoration workers.

1.7 QUALITY ASSURANCE

- A. Stucco Restoration Specialist Qualifications: Engage an experienced stucco restoration firm to perform work of this section. Firm shall have completed work in similar historic stucco materials, design, and extent to that indicated for this project with a record of successful in-service performance. Experience installing standard stucco is not sufficient experience for stucco restoration work.
 - 1. Field Supervision: Stucco Restoration specialist firms shall maintain experienced full-time supervisors on the project site during times that stucco restoration is in progress. Supervisors shall not be changed during project except for causes beyond the control of restoration specialist firm.
 - 2. Stucco Restoration Worker Qualifications: Persons who are experienced and specialize in restoration work of types they will be performing.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
 - 1. Build mockups of plaster restoration as agreed upon in Preinstallation Meeting.
 - a. Size: 10 sq. ft. in surface area. Locate adjacent to existing stucco to remain to show blending between existing and new finishes.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed work if undisturbed at time of Substantial Completion.
- C. Repair Appearance Standard: Exposed repaired surfaces are to have a uniform appearance as viewed from 3 feet and from 8 feet away by Resident Engineer and Owner's Representative. Repaired surfaces shall blend smoothly into surrounding areas.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover, and keep them dry and protected against damage from weather, moisture, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.9 FIELD CONDITIONS

- A. Comply with ASTM C 926 requirements.
- B. Exterior Plasterwork:
 - 1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.
 - 2. Apply plaster when ambient temperature is greater than 40 deg F.
 - 3. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.
- C. Special Temporary Protection: The Contractor is responsible for protecting existing adjacent materials and surfaces during the execution of the work and shall provide all necessary protection and follow all necessary work procedures to avoid damage to existing material assemblies not a part of the work in this section:
 - 1. Minimize levels of dust during stucco removal and application operations.
 - 2. Protect open joints and other vulnerable areas from water penetration to prevent leakage during the course of work. Open areas shall not be left exposed overnight or when inclement weather is predicted.
 - 3. Remove, store, protect and reinstall any existing items required to be removed to perform stucco repair work.
 - 4. Protect door and frames and window sashes and frames with plywood or other sturdy barrier during removal of stucco around openings. Coordinate with Owner and Museum Staff to avoid interruptions to Museum operations.
 - 5. Protect adjacent work from moisture deterioration and soiling due to stucco application operations. Provide temporary coverings as required to minimize spattering of stucco on other materials.

PART 2 - PRODUCTS

2.1 METAL LATH

- A. Expanded-Metal Lath: ASTM C847, cold-rolled carbon-steel sheet with ASTM A653/A653M, G60, hot-dip galvanized-zinc coating.
 - 1. Diamond-Mesh Lath: Self-furring, 2.5 lb/sq. yd..
- B. Paper Backing: FS UU-B-790a, Type I, Grade D, Style 2 vapor-permeable paper.

2.2 ACCESSORIES

- A. General: Comply with ASTM C1063, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Metal Accessories:
 - 1. Foundation Weep Screed, if existing weep screed is damaged beyond repair: Fabricated from hot-dip galvanized-steel sheet, ASTM A653/A653M, G60 zinc coating.
 - 2. Casing Beads: Fabricated from zinc or zinc-coated (galvanized) steel; square-edged style; with expanded flanges.

2.3 MISCELLANEOUS MATERIALS

- A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in cement plaster.
- C. Bonding Compound: ASTM C 932.
- D. Fasteners for Attaching Metal Lath to Substrates: ASTM C 1063.
- E. Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter unless otherwise indicated.
- F. Steel drill screws complying with ASTM C 1002 for fastening metal lath to wood or steel members less than 0.033 inch thick.
- G. Steel drill screws complying with ASTM C 954 for fastening metal lath to steel members 0.033 to 0.112 inch thick.

2.4 PLASTER MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I.
 - 1. Color for Finish Coats: Gray. Field Paint scheduled color.
- B. Natural Cement: ASTM C 150, Type II. (If present in existing stucco mix).
- C. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.
- D. Sand Aggregate: ASTM C 897. (Unless existing historic stucco contains a different type).
 - 1. Color for Job-Mixed Finish Coats: In color matching Architect's sample.
- E. Perlite Aggregate: ASTM C 35.
- F. Water: Potable.

- G. Ready-Mixed Finish-Coat Plaster: Mill-mixed Portland cement, aggregates, coloring agents, and proprietary ingredients. May be used if closely matches and is compatible with existing historic stucco. If not, provide custom mix.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. LaHabra Stucco Solutions; Parex USA.
 - b. Merlex Stucco.
 - c. Omega Products International.
 - d. Or Approved Equal.

2.5 PLASTER MIXES

- A. General: Comply with ASTM C 926 for applications indicated.
1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. yd. of cementitious materials.
- B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:
1. Portland Cement Mixes:
 - a. Scratch Coat: For cementitious material, mix 1 part Portland cement and 0 to 3/4 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
 - b. Brown Coat: For cementitious material, mix 1 part Portland cement and 0 to 3/4 parts lime. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.
 - c. The above assumes a Portland cement mix similar to modern mixes was used. If this is not the case provide custom mix to match existing.
- C. Factory-Prepared Finish-Coat Mixes: For ready-mixed finish-coat plasters, comply with manufacturer's written instructions. Follow industry standards if custom mix required.
- D. For slurry coat repairs use manufacturer's Factory-Prepared Finish-Coat Mix, thinned per manufacturer's instructions, or Manufacturer's factory prepared slurry coat mix; comply with manufacturer's written instructions. Or custom mix to match existing historic stucco mix if Factory-Prepared mixes are not compatible with existing stucco.

2.6 CLEANING MATERIALS

- A. Water: Potable.
- B. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gallons of solution required.

- C. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 5 quarts of 5 percent sodium hypochlorite (bleach), and 15 quarts of hot water for every 5 gallons of solution required.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Evaluate extent of failing existing exterior plaster system, prior to bid and Preinstallation Meeting. Confirm extent of plaster patching with Architect and Owner prior to bid submittal and commencement of Work.
 - 1. Identify locations of stucco cracks, and areas of deterioration, delamination, bulging or failure of bond to substrate. Avoid oversounding to prevent additional damage to lath, paper, or keys.
 - 2. Coordinate stucco work with other repairs including roof work, fin repairs, cleaning, and painting.
 - 3. Coordinate to minimize damage to and protect existing landscaping.
- B. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- D. Refer to exterior cement plaster manufacturer's instructions referencing stucco repair, if a factory-fabricated mix is compatible with existing stucco. (Such as ParexUSA Performing Stucco Repairs Technical Bulletin TB027, if Parex is selected).
- E. Refer to the U.S. Department of the Interior's 22 Preservation Briefs "The Preservation and Repair of Historic Stucco".

3.2 PREPARATION

- A. Remove damaged existing exterior plaster finish, as required to achieve a solid and stable bond to existing construction. Refer to publication "Repair of Portland Cement Plaster (Stucco)" by the Portland Cement Association, IS526.
 - 1. Identify unsound, loose and poorly-adhered stucco and separate it from its substrate by tapping with a hammer and prying with a chisel or screwdriver. Do not use pry bars or sledgehammers. Leave sound, firmly adhered stucco in place, unless otherwise indicated. Do not damage, remove, or dismantle historic stucco except where indicated by drawings or specifications or where it is an immediate hazard to personnel and as approved by the Owner's representative.
- B. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
- C. Prepare smooth, solid substrates for plaster according to ASTM C926.

3.3 INSTALLING METAL LATH

- A. Metal Lath: Install according to ASTM C1063.
 - 1. On Solid Surfaces, Not Otherwise Furred: Install self-furring, diamond-mesh lath.

3.4 INSTALLING ACCESSORIES

- A. Install according to ASTM C1063 and at locations indicated on Drawings.

3.5 PLASTER APPLICATION

- A. General: Comply with ASTM C926.
 - 1. Do not deviate more than plus or minus 1/4 inch in 10 feet from a true plane in finished plaster surfaces when measured by a 10-foot straightedge placed on surface.
 - 2. Finish plaster flush with adjacent existing plaster coats.
 - 3. Provide plaster surfaces that are ready to receive field-applied finishes indicated.
- B. Walls; Base-Coat Mixes for Use over Metal Lath: For scratch and brown coats, for three-coat plasterwork with thickness to match existing plaster, as follows:
 - 1. Portland cement mixes, unless testing determines these are incompatible with existing stucco.
- C. Plaster Finish Coats: Apply to provide finish to match existing adjacent plaster finish.

3.6 PLASTER REPAIRS

- A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.
- B. Stucco Repair of Minor Cracks (1/8 inch and smaller):
 - 1. Crack should be free from dirt, grease, paint and vegetation. Blow cracks clean with compressed air, not to exceed 150 psi.
 - 2. As appropriate, coat crack with a bonding agent in accordance with the manufacturer's instructions.
 - 3. Prepare a slurry coat of stucco to match color and finish of the existing stucco.
 - 4. Apply a light coat of the slurry along the crack and work to match existing stucco.
- C. Stucco Repair of Large Cracks (larger than 1/8 inch):
 - 1. Cracks to be repaired shall be routed to a minimum width and depth of 1/4 inch to accommodate stucco fill. The edges of the crack shall be undercut where possible. Brush cracks clean of loose debris with a soft brush.
 - 2. The area to receive the stucco fill shall be thoroughly wetted to prevent dehydration of the stucco. Re-wet as necessary. Using the approved stucco mix, fill the crack and work stucco in as tightly as possible until flush with adjoining surface. Remove the excess

stucco. Protect filled areas with plastic sheeting and re-wet periodically to allow a full cure.

D. Stucco Repair by Patching:

1. Extent and area of patches shall be carefully assessed and reviewed by the Owner's representative.
2. Remove all loose stucco, deteriorated stucco, severely deteriorated stucco, or previously patched areas that do not match adjacent stucco. Take care to avoid damaging lath and building paper when possible.
3. Replace areas of damaged lath and building paper. Lap building paper to drain.
4. Edges should be hammered to provide diagonal keys. If necessary, and as reviewed with the Owner's representative, it may be preferred to stucco a larger area than that required by patch in order to better blend in edges or avoid narrow areas of patch material.
5. Patch area must not overlap existing stucco.
6. Dampen surface before applying stucco.
7. Apply the scratch coat to the lath. Number and thickness of the repair coats should match the historic stucco. Scratch or crosshatch with a comb to provide a key for the next coat. Allow scratch coat to dry 24 to 72 hours.
8. Apply the second or leveling coat to match existing. Thickness to allow for the finish coat to flush out with existing adjacent finish. Roughen surface to provide a key for the finish coat.
9. Apply the final or finish coat after the leveling coat is initially set. Work the finish coat to match the texture of the historic stucco.

3.7 CLEANING AND PROTECTION

- A. Remove temporary protection and enclosure of other work after plastering is complete. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 09 24 00

SECTION 09 91 13 - EXTERIOR PAINTING**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following exterior substrates:
 - 1. Concrete, Portland Cement Plaster (stucco), EIFS, Fiber Cement.
 - 2. Concrete masonry units (CMU).
 - 3. Metal (ferrous and non-ferrous).
 - 4. Wood.
- B. Related Requirements:
 - 1. Section 099600 "High-Performance Coatings" for special-use coatings.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches square.
 - 2. Label each coat of each Sample.
 - 3. 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.
 - 2. VOC content.

1.4 CLOSEOUT SUBMITTALS

- A. Coating Maintenance Manual: Provide coating maintenance manual including area summary with finish schedule, area detail designating location where each product/color/finish was used, product data pages, material safety data sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.5 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. Paint: Provide two gallons of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups 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. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
 - b. Other Items: Architect will designate items or areas required.
 - 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Handling: Deliver products to Project site in an undamaged condition in manufacturer's original sealed containers, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Packaging shall bear the manufacture's label with the following information:
 - 1. Product name and type (description).
 - 2. Batch date.
 - 3. Color number.
 - 4. VOC content.
 - 5. Environmental handling requirements.
 - 6. Surface preparation requirements.
 - 7. Application instructions.
- B. 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.

1.8 FIELD CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 95 deg F.
- B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- C. Do not apply exterior coatings in snow, rain, fog, or mist.
- D. Hazardous Materials: It is not expected that hazardous materials including lead paint will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.
- E. Lead Paint: Lead paint is present in buildings and structures to be painted. A report on the presence of lead paint is on file for review and use. Examine report to become aware of locations where lead paint is present.
 - 1. Do not disturb lead paint or items suspected of containing hazardous materials except under procedures specified by the City of San Diego.
 - 2. Perform preparation for painting of substrates known to include lead paint in accordance with EPA Renovation, Repair and Painting Rule and additional requirements of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Sherwin-Williams Company products indicated or comparable product from one of the following:
 - 1. Dunn Edwards.
 - 2. PPG.
 - 3. Or approved equal.
- B. Comparable Products: Comparable products of approved manufacturers will be considered in accordance with Section 016000 "Product Requirements", and the following:
 - 1. Products are approved by manufacturer in writing for application specified.
 - 2. Products meet performance and physical characteristics of basis of design product including published ratio of solids by volume, plus or minus two percent.
- C. Source Limitations: Obtain paint materials from single source from single listed manufacturer.
 - 1. Manufacturer's designations listed on a separate color schedule are for color reference only and do not indicate prior approval.

2.2 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. VOC Content: All paints and coatings wet-applied on site must meet the applicable VOC limits of the California Air Resources Board (CARB) 2007, Suggested Control Measure (SCM) for Architectural Coatings, or the South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011.
1. Colors: As indicated in a color schedule.

2.3 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 2. Testing agency will perform tests for compliance with product requirements.
 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

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. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers. Where acceptability of substrate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.
1. Report, in writing, conditions that may affect application, appearance, or performance of paint.
- B. Substrate Conditions:
1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Concrete: 12 percent.

- b. Masonry (Clay and CMU): 12 percent.
 - c. Wood: 15 percent.
 - d. Portland Cement Plaster: 12 percent.
 - e. Gypsum Board: 12 percent.
2. Portland Cement Plaster Substrates: Verify that plaster is fully cured.
 3. Exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- C. Proceed with coating application only after unsatisfactory conditions have been corrected; application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.
- 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, contaminants, and loose and peeling paint. All surfaces to be painted must be clean, dry, dull, and sound.
- D. Concrete Substrates: Remove all loose and peeling paint, 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.
1. Clean surfaces with pressurized water. Use pressure range of 1500 to 3000 psi at 6 to 12 inches.
- E. Masonry Substrates: Remove all loose and peeling paint, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions.
1. Clean surfaces with pressurized water. Use pressure range of 600 psi to 1500 at 6 to 12 inches.
- F. Ferrous Metal Substrates: Remove all dirt, rust, oxidation, loose and peeling paint, and contaminants to produce a clean, dry, dull, and sound surface. Clean using methods recommended in writing by paint manufacturer. Below are the minimum surface preparation requirements.
1. SSPC-SP 2, "Hand Tool Cleaning."
 2. SSPC-SP 3, "Power Tool Cleaning."

- G. Galvanized-Metal Substrates: Confirm that galvanized metal has not been passivated. Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- H. Aluminum Substrates: Remove loose surface oxidation.
- I. Wood Substrates:
 - 1. Remove all loose and peeling paint. Sand surfaces that will be exposed to view and dust off.
 - 2. Prime edges, ends, faces, undersides, and backsides of wood.
 - 3. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 - 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 - 4. Paint entire exposed surface of window frames and sashes.
 - 5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 6. All patched and repaired concrete, masonry, and stucco requires spot priming with the manufacturer recommended primer.
 - 7. A full coat of all Primers specified in painting schedules is required.
- B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- C. 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.
- D. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed to view:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

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 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 Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

- A. Concrete, Portland Cement Plaster (Stucco), Nontraffic Surfaces:
 - 1. Self-Cleaning Acrylic Latex System:
 - a. Prime Coat: Primer sealer, latex, exterior: S-W Loxon Conditioner, LX3W100, at 200-300 square feet per gallon. Or approved equal.
 - b. Intermediate Coat: matching topcoat.
 - c. Topcoat: Self Cleaning Acrylic Latex, exterior flat: S-W Loxon Self Cleaning Coating, LX13W51, at 2.1 to 2.9 mils dry per coat. Or approved equal.
- B. CMU Substrates:
 - 1. Self-Cleaning Acrylic Latex System:
 - a. Prime Coat: Primer sealer, latex, exterior: S-W Loxon Conditioner, LX3W100, at 200-300 square feet per gallon. Or Approved Equal.
 - b. Intermediate Coat: matching topcoat.
 - c. Topcoat: Self Cleaning Acrylic Latex, exterior flat: S-W Loxon Self Cleaning Coating, LX13W51, at 2.1 to 2.9 mils dry per coat. Or approved equal.
- C. Metal Substrates (Aluminum, Steel, Galvanized Steel):

1. Water-Based Light Industrial Coating System:
 - a. Prime Coat: Primer, rust-inhibitive, water based: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series, at 5.0 to 10 mils wet, 2.0 to 4.0 mils dry. Or approved equal.
 - b. Intermediate Coat: Water-based hybrid, interior, matching topcoat.
Topcoat: Water-based acrylic, semi-gloss: S-W ProIndustrial WB Alkyd Urethane Semigloss, B53-1150 Series, at 5.0 mils wet, 1.7 mils dry, per coat. Or approved equal.

D. Wood Substrates: Including exposed wood items not indicated to receive shop-applied finish.

1. Latex System:
 - a. Prime Coat: Primer, latex for exterior wood: S-W PrepRite ProBlock Latex Primer/Sealer, B57-620 Series, at 4.0 mils wet, 1.4 mils dry. Or approved equal.
 - a. Intermediate Coat: Latex, exterior, matching topcoat.
 - b. Topcoat: Latex, exterior, flat: S-W Superpaint Exterior Latex Flat, A80 Series, at 4.0 mils wet, 1.2 mils dry, per coat. Or approved equal.
 - c. Topcoat: Latex, exterior, satin: S-W Superpaint Exterior Latex Satin, A89 Series, at 4.0 mils wet, 1.5 mils dry, per coat. Or approved equal.
 - d. Topcoat: Latex, exterior, semi-gloss: S-W Superpaint Exterior Latex Gloss, A84 Series, at 4.0 mils wet, 1.5 mils dry, per coat. Or approved equal.

END OF SECTION 09 91 13

SECTION 09 91 23 - INTERIOR PAINTING**PART 1 - GENERAL**

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems, in order to repaint areas damaged by electrical work, on the following interior substrates:
1. Gypsum board.
 2. Wood.
 3. HVAC, Electrical, Communication, and Electronic Safety and Security Work

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
1. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
1. Submit Samples on rigid backing, 8 inches square.
 2. Apply coats on Samples in steps 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: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.3 QUALITY ASSURANCE

- A. Paint Contractor shall have a successful record in application of paints and coatings specified. Contractor shall maintain qualified painting crews during entire painting process.

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 FIELD 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.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements provide products by one of the following:
 - 1. Sherwin-Williams Company (The)
 - 2. Dunn Edwards
 - 3. PPG.
 - 4. Or Approved Equal.

2.2 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Materials for use within each paint system shall be 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, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- B. Colors: To match color of the existing paint on surface. Verify in field.

2.3 PRIMERS/SEALERS

- A. Interior Latex Primer/Sealer for gypsum board:
 - 1. Sherwin-Williams Company; ProMar 200 Zero VOC Primer, B28W2600. Basis of Design.
 - 2. Or Approved Equal.

2.4 WOOD PRIMERS

- A. Interior Latex Wood Primer:
 - 1. Sherwin-Williams Company; Pro Block B51W8020. Basis of Design.

2. Or Approved Equal.

2.5 ACRYLIC LATEX PAINTS

A. Interior Acrylic Latex (Low Sheen):

1. Sherwin-Williams Company; Solo Acrylic Eggshell A 75 Series. Basis of Design
2. Or Approved Equal.

B. Interior Acrylic Latex (Gloss):

1. Sherwin-Williams Company; Solo Acrylic Gloss A 77 Series. Basis of Design.
2. Or Approved Equal.

C. Institutional Low-Odor/VOC Latex (Flat):

1. Sherwin-Williams Company; ProMar 200 Zero VOC Flat B30-2600. Basis of Design.
2. 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 the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Gypsum Board: 12 percent.
 2. Wood: 15 percent
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.

- 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 if any.
- C. Clean substrates of substances that could impair bond of paints, 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 paint systems indicated.

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.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
 - 6. Paint from floor to ceiling and corner to corner. Spot touch ups within a portion of a single wall, or ceiling surface are not allowed.
- 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. Painting HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.

- e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - h. Other items as directed by Architect.
2. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

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 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 the Owner's Representative, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Gypsum Board Substrates:
 1. Latex System:
 - a. Prime Coat: Interior Latex Primer/Sealer for gypsum board.
 - b. Intermediate Coat: Interior Acrylic Latex.
 - c. Top Coat: Interior Acrylic Latex. Finish to match existing adjacent sheen.
- B. Wood Substrates: Wood trim, Architectural woodwork, Doors, and Windows.

1. Latex System:
 - a. Prime Coat: Interior Latex Wood Primer.
 - b. Intermediate Coat: Interior Acrylic Latex.
 - c. Topcoat: Interior Acrylic Latex. Finish to match existing adjacent sheen.

END OF SECTION 09 91 23

SECTION 09 96 00 - HIGH-PERFORMANCE COATINGS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and application of high-performance coating systems on the following substrates:
 - 1. Exterior Substrates:
 - a. Ferrous and Non-ferrous metal. For sheet metal fins and window framing, mullions & muntins.
- B. Related Requirements:
 - 1. Section 099113 "Exterior Painting" for special-use coatings and general field painting.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions, including printed statement of VOC content.
- B. Samples for Initial Selection: For each type of topcoat product indicated.
- C. 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. Label each coat of each Sample.
 - 3. 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.
 - 2. VOC content.

1.4 CLOSEOUT SUBMITTALS

- A. Coating Maintenance Manual: Provide coating maintenance manual including area summary with finish schedule, area detail designating location where each product/color/finish was used,

product data pages, material safety data sheets, care and cleaning instructions, touch-up procedures, and color samples of each color and finish used.

1.5 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. Coatings: provide not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each coating system indicated to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each coating system specified in Part 3.
 - a. Provide samples of at least 10 sq. ft.
 - 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Handling: Deliver products to Project site in an undamaged condition in manufacturer's original sealed containers, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Packaging shall bear the manufacture's label with the following information:
 - 1. Product name and type (description).
 - 2. Batch date.
 - 3. Color number.
 - 4. VOC content.
 - 5. Environmental handling requirements.
 - 6. Surface preparation requirements.
 - 7. Application instructions.

- B. 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.

1.8 FIELD CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 95 deg F.
- B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- C. Do not apply exterior coatings in snow, rain, fog, or mist.
- D. Lead Paint: Lead paint is present in buildings and structures to be painted. A report on the presence of lead paint is on file for review and use. Examine report to become aware of locations where lead paint is present.
 - 1. Do not disturb lead paint or items suspected of containing hazardous materials except under procedures specified by the City of San Diego.
 - 2. Perform preparation for painting of substrates known to include lead paint in accordance with EPA Renovation, Repair and Painting Rule and additional requirements of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Sherwin-Williams Company products indicated or comparable product from one of the following: (local contact: John Dumesnil, 619-665-9341 or john.t.dumesnil@sherwin.com.)
 - 1. Tnemec.
 - 2. PPG.
 - 3. Or approved equal.
- B. Comparable Products: Comparable products of approved manufacturers will be considered in accordance with Section 016000 "Product Requirements," and the following:
 - 1. Products are approved by manufacturer in writing for application specified.
 - 2. Products meet performance and physical characteristics of basis of design product including published ratio of solids by volume, plus or minus two percent.
- C. Source Limitations: Obtain paint materials from single source from single listed manufacturer.

1. Manufacturer's designations listed on a separate color schedule are for color reference only and do not indicate prior approval.

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: All paints and coatings wet-applied on site must meet the applicable VOC limits of the California Air Resources Board (CARB) 2007, Suggested Control Measure (SCM) for Architectural Coatings, or the South Coast Air Quality Management District (SCAQMD) Rule 1113, effective June 3, 2011.

C. Colors: As indicated in a color schedule.

2.3 SOURCE QUALITY CONTROL

A. Testing of Coating Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample coating materials. Contractor will be notified in advance and may be present when samples are taken. If coating materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying coating materials from Project site, pay for testing, and recoat surfaces coated with rejected materials. Contractor will be required to remove rejected materials from previously coated surfaces if, on recoating with complying materials, the two coatings are incompatible.

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. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers. Where acceptability of substrate conditions is in question, apply samples and perform in-situ testing to verify compatibility, adhesion, and film integrity of new paint application.

1. Report in writing conditions that may affect application, appearance, or performance of paint.
- B. Substrate Conditions:
1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Concrete: 12 percent.
 - b. Concrete Masonry: 12 percent.
 - c. Gypsum Board: 12 percent.
 2. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
 3. Plaster Substrates: Verify that plaster is fully cured.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected; application of coating indicates acceptance of surfaces 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 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, contaminants, and loose and peeling paint. All surfaces to be painted must be clean, dry, dull, and sound.
- D. Concrete Substrates: Remove all loose and peeling paint, 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.
1. Clean surfaces with pressurized water. Use pressure range of 1500 to 3000 psi at 6 to 12 inches.
- E. Masonry Substrates: Remove all loose and peeling paint, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions.
1. Clean surfaces with pressurized water. Use pressure range of 600 psi to 1500 at 6 to 12 inches.

- F. Ferrous Metal Substrates: Remove all dirt, rust, oxidation, loose and peeling paint, and contaminants to produce a clean, dry, dull, and sound surface. Clean using methods recommended in writing by paint manufacturer. Below are the minimum surface preparation requirements.
1. SSPC-SP 2, "Hand Tool Cleaning."
 2. SSPC-SP 3, "Power Tool Cleaning."
- G. Galvanized-Metal Substrates: Confirm that galvanized metal has not been passivated. Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- H. Aluminum Substrates: Remove loose surface oxidation.

3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
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. Coat back sides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 4. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. If undercoats or other conditions show through final coat, regardless of number of coats specified, apply at no cost additional coats until cured film has a uniform coating finish, color, and appearance.
- C. 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 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test coatings for dry film thickness.
1. Contractor shall touch up and restore coated surfaces damaged by testing.
 2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations.

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 Architect, 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 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

- A. Steel, Galvanized, Aluminum Substrates:
 - 1. Pigmented Polyurethane over Epoxy System:
 - a. Prime Coat: Epoxy, high-build, low gloss S-W Macropoxy 646-100, B58-600 Series, at 5 to 10 mils dry, per coat. Or approved equal.
 - a. Intermediate Coat: Polyurethane, two-component, pigmented, matching topcoat.
 - b. Topcoat: Polyurethane, two-component, pigmented, semigloss: S-W Pro Industrial Water-based Acrolon 100 Polyurethane, B65-520 Series, at 1.7 to 3.4 mils dry, per coat. Or approved equal.

END OF SECTION 09 96 00

SECTION 221319.13 - SANITARY DRAINS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Roof receptors.

1.3 DEFINITIONS

- A. PVC: Polyvinyl chloride.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 METAL ROOF DRAINS

- A. Cast-Iron, Large-Sump, General-Purpose Roof Receptors:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Josam Company.
 - b. Smith, Jay R. Mfg. Co.
 - c. Zurn Industries, LLC.
 - d. Or approved equal.
 - 2. Standard: ASME A112.6.4, for general-purpose roof receptors.
 - 3. Body Material: Cast iron.
 - 4. Dimension of Body: Nominal 14-inch diameter.
 - 5. Combination Flashing Ring and Gravel Stop: Required.
 - 6. Flow-Control Weirs: Not required.
 - 7. Outlet: Bottom.
 - 8. Outlet Type: No hub.
 - 9. Extension Collars: Not required.

10. Underdeck Clamp: Required.
11. Expansion Joint: Not required.
12. Sump Receiver Plate: Not required.
13. Dome Material: Cast iron.
14. Perforated Gravel Guard: Stainless steel.
15. Vandal-Proof Dome: Required.
16. Water Dam: 2 inches high.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install roof receptors according to roof membrane manufacturer's written installation instructions.
 1. Install flashing collar or flange of roof receptor to prevent leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
 2. Install expansion joints, if indicated, in roof receptor outlets.
 3. Position roof receptors for easy access and maintenance.

3.2 PROTECTION

- A. Protect receptors during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221319.13

SECTION 221423 - STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. General-purpose roof drains.

B. Related Requirements:

1. Section 076200 "Sheet Metal Flashing and Trim" for penetrations of roofs.

1.2 ACTION SUBMITTALS

A. Product Data:

1. General-purpose roof drains.

1.3 QUALITY ASSURANCE

- A. Provide drainage piping specialties are to bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 GENERAL-PURPOSE ROOF DRAINS

A. Cast-Iron Roof Drains:

1. Cast-Iron, Large-Sump, General-Purpose Roof Drains:

- a. Manufacturers: subject to compliance with requirements, provide products by one of the following:
 - 1) Josam Company
 - 2) Smith, Jay R. Mfg. Co.
 - 3) Zurn Industries, LLC.
 - 4) Or approved equal.
- b. Standard: ASME A112.6.4.
- c. Body Material: Cast iron.
- d. Dimension of Body: Nominal 14-to 16-inch diameter.
- e. Dome Material: Cast iron.
- f. Combination flashing ring and gravel stop.

- g. Outlet: Bottom.
 - h. Outlet Type: No-hub.
 - i. Options:
 - 1) Underdeck clamp.
 - 2) Perforated Gravel Guard: Stainless steel.
 - 3) Vandal-proof dome.
 - 4) Water Dam: 2 inches high for overflow drains.
2. Cast-Iron, Medium-Sump, General-Purpose Roof Drains:
- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Josam Company
 - 2) Smith, Jay R. Mfg. Co.
 - 3) Watts; a Watts Water Technologies Company.
 - 4) Or approved equal.
 - b. Standard: ASME A112.6.4.
 - c. Body Material: Cast iron.
 - d. Dimension of Body: 8- to 12-inch diameter.
 - e. Dome Material: Cast iron.
 - f. Combination flashing ring and gravel stop.
 - g. Outlet: Bottom.
 - h. Outlet Type: No-hub.
 - i. Options:
 - 1) Underdeck clamp.
 - 2) Wire Mesh: Stainless steel or brass over dome.
 - 3) Perforated Gravel Guard: Stainless steel.
 - 4) Vandal-proof dome.
 - 5) Water Dam: 2 inches high for overflow drains.
3. Cast-Iron, Small-Sump, General-Purpose Roof Drains:
- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Smith, Jay R. Mfg. Co.
 - 2) Watts; a Watts Water Technologies Company.
 - 3) Zurn Industries, LLC.
 - 4) Or approved equal.
 - b. Standard: ASME A112.6.4.
 - c. Body Material: Cast iron.
 - d. Dimension of Body: Nominal 8-inch diameter.
 - e. Dome Material: Cast iron.
 - f. Combination flashing ring and gravel stop.
 - g. Outlet: Bottom.
 - h. Outlet Type: No-hub.
 - i. Options:
 - 1) Underdeck clamp.
 - 2) Wire Mesh: Stainless steel or brass over dome.

- 3) Vandal-proof dome.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install roof drains in accordance with roof membrane manufacturer's written installation instructions at low points of roof areas.
 1. Install flashing collar or flange of roof drain to maintain integrity of waterproof membranes where penetrated.
 2. Install expansion joints, if indicated, in roof drain outlets.
 3. Position roof drains for easy access and maintenance.

3.2 INSTALLATION OF FLASHING

- A. Fabricate flashing from single piece of metal unless large pans, sumps, or other drainage shapes are required.
- B. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.
- C. Set flashing on floors and roofs in solid coating of bituminous cement.
- D. Secure flashing into sleeve and specialty clamping ring or device.

3.3 CLEANING

- A. Clean piping specialties during installation and remove dirt and debris as work progresses.

3.4 PROTECTION

- A. Protect piping specialties during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic and construction work.
- B. Place plugs in ends of uncompleted piping at end of each day and when work stops.

END OF SECTION 221423

SECTION 260010 - SUPPLEMENTAL REQUIREMENTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies supplemental requirements generally applicable to the Work specified in Division 26. This Section is also referenced by related Work specified in other Divisions.

1.2 REFERENCES

- A. Abbreviations and Acronyms for Electrical Terms and Units of Measure:
1. A: Ampere, unit of electrical current.
 2. AC or ac: Alternating current.
 3. AIC: Ampere interrupting capacity.
 4. AL, Al, or ALUM: Aluminum.
 5. ASD: Adjustable-speed drive; also called "variable-frequency drive" (VFD).
 6. AWG: American wire gauge; see ASTM B258.
 7. CB: Circuit breaker.
 8. cd: Candela, the SI fundamental unit of luminous intensity.
 9. CO/ALR: Copper-aluminum, revised.
 10. CU or Cu: Copper.
 11. CU-AL or AL-CU: Copper-aluminum.
 12. DDC: Direct digital control (HVAC).
 13. DMX: Digital Multiplex
 14. EG: Equipment grounding conductor.
 15. fc: Footcandle, an internationally recognized unit of illuminance equal to one lumen per square foot or 10.76 lx. The simplified conversion 1 fc = 10 lx in the Specifications is common practice and considered adequate precision for building construction activities. When there are conflicts, lux is the primary unit; footcandle is specified for convenience.
 16. FLC: Full-load current.
 17. ft: Foot.
 18. GEC: Grounding electrode conductor.
 19. GFCI: Ground-fault circuit interrupter.
 20. GND: Ground.
 21. HACR: Heating, air conditioning, and refrigeration.
 22. HP or hp: Horsepower.
 23. HVAC: Heating, ventilating, and air conditioning.
 24. Hz: Hertz.
 25. inch: Inch. To avoid confusion, the abbreviation "in." is not used.
 26. IP: Ingress protection rating (enclosures); Internet protocol (communications).
 27. kAIC: Kiloampere interrupting capacity.
 28. kcmil or MCM: One thousand circular mils.
 29. kVA: Kilovolt-ampere.
 30. kW: Kilowatt.
 31. kWh: Kilowatt-hour.
 32. LAN: Local area network.

33. lb: Pound (weight).
34. LCD: Liquid-crystal display.
35. LED: Light-emitting diode.
36. Li-ion: Lithium-ion.
37. lm: Lumen, the SI derived unit of luminous flux.
38. LRC: Locked-rotor current.
39. LV: Low voltage.
40. lx: Lux, the SI derived unit of illuminance equal to one lumen per square meter.
41. m: Meter.
42. MLO: Main lugs only.
43. NC: Normally closed.
44. Ni-Cd: Nickel-cadmium.
45. Ni-MH: Nickel-metal hydride.
46. NO: Normally open.
47. NPT: National (American) standard pipe taper.
48. OCPD: Overcurrent protective device.
49. PF or pf: Power factor.
50. PVC: Polyvinyl chloride.
51. RMS or rms: Root-mean-square.
52. SPD: Surge protective device.
53. sq.: Square.
54. SWD: Switching duty.
55. UL: (standards) Underwriters Laboratories, Inc.; (product categories) UL, LLC.
56. USB: Universal serial bus.
57. UV: Ultraviolet.
58. V: Volt, unit of electromotive force.
59. V(ac): Volt, alternating current.
60. V(dc): Volt, direct current.
61. VA: Volt-ampere, unit of complex electrical power.
62. VOM: Volt-ohm-multimeter.
63. W: Watt, unit of real electrical power.
64. Wh: Watt-hour, unit of electrical energy usage.
65. WR: Weather resistant.

B. Abbreviations and Acronyms for Electrical Raceway Types:

1. EMT: Electrical metallic tubing.
2. GRC: Galvanized-steel electrical rigid metal conduit.
3. FMC: Flexible metal conduit.
4. LFMC: Liquidtight flexible metal conduit.
5. PVC: Rigid PVC conduit.
6. PVC-40: Schedule 40 rigid PVC conduit.
7. PVC-80: Schedule 80 rigid PVC Conduit.
8. RGS: See GRC.

C. Abbreviations and Acronyms for Electrical Single-Conductor and Multiple-Conductor Cable Types:

1. AC: Armored cable.
2. Enet: Ethernet
3. MC: Metal-clad cable.
4. THHN: Thermoplastic, heat-resistant cable with nylon jacket outer sheath.

5. THWN: Thermoplastic, moisture- and heat-resistant cable with nylon jacket outer sheath.

1.3 COORDINATION

- A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions:
 1. Notify Owner no fewer than seven days in advance of proposed interruption of electrical service.
 2. Do not proceed with interruption of electrical service without Owner's written permission.
- B. Arrange to provide temporary electrical power in accordance with requirements specified in Division 01.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 QUALITY ASSURANCE

- A. Qualifications: Prepare and submit qualification statements for the following entities performing Work on Project:
 1. Low-Voltage Electrical Testing and Inspecting Agency: Entities possessing active credentials from a qualified electrical testing laboratory recognized by authorities having jurisdiction.
 - a. On-site electrical testing supervisors must have documented certification and experience with testing electrical equipment in accordance with NETA testing standards.
 2. Luminaire Photometric Testing Laboratory: Entity accredited under the NVLAP for Energy Efficient Lighting Products and complying with applicable IES testing standards.

PART 2 - PRODUCTS

2.1 SUBSTITUTION LIMITATIONS FOR ELECTRICAL EQUIPMENT

- A. Substitution requests for electrical equipment will be entertained under the following conditions:
 1. Notification of Contractor's intent to request substitutions for convenience must be declared during the Electrical Preconstruction Conference so potential risks to system performance and construction schedule may be identified for Contractor's response in submission of the substitution request.
 2. For electrical equipment and systems, substitutions for cause are considered major construction risks. If it is possible that Contractor may need to request substitutions for

cause because of equipment unavailability, or inability to meet construction schedule because of lead time, Contractor must declare the possibility during the Electrical Preconstruction Conference to permit establishing a mitigation plan for minimizing risks to system performance and construction schedule.

PART 3 - EXECUTION

- A. Coordination Drawings for Conduit Routing: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
1. Structural members in paths of conduit groups with common supports.
 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.

3.2 INSTALLATION OF ELECTRICAL WORK

- A. Unless more stringent requirements are specified in the Contract Documents or manufacturers' written instructions, comply with NFPA 70 and NECA NEIS 1 for installation of Work specified in Division 26. Consult Architect for resolution of conflicting requirements.

3.3 FIELD QUALITY CONTROL

- A. Administrant for Low-Voltage Electrical Tests and Inspections:
1. Engage qualified low-voltage electrical testing and inspecting agency to administer and perform tests and inspections.
 2. Administer and perform tests and inspections.
- B. Administrant for Field Tests and Inspections of Lighting Installations:
1. Engage qualified lighting testing and inspecting agency to administer and perform tests and inspections.
 2. Administer and perform tests and inspections with assistance of factory-authorized service representative.

3.4 CLOSEOUT ACTIVITIES

- A. Operation and Maintenance Data: Prepare and submit the following:
1. Include the following information:
 - a. Manufacturer's operating specifications.
 - b. User's guides for software and hardware.
 - c. Schedule of maintenance material items recommended to be stored at Project site.
 - d. Detailed instructions covering operation under both normal and abnormal conditions.
 - e. Time-current curves for overcurrent protective devices and manufacturer's written instructions for testing and adjusting their settings.

- f. List of load-current and overload-relay heaters with related motor nameplate data.
 - g. List of lamp types and photoelectric relays used on Project, with ANSI and manufacturers' codes.
 - h. Manufacturer's instructions for setting field-adjustable components.
 - i. Manufacturer's instructions for testing, adjusting, and reprogramming microprocessor controls.
 - j. Exterior pole inspection and repair procedures.
 - k. Include copies of demonstration and training videos.
- B. Software and Firmware Operational Documentation: Provide software and firmware operational documentation, including the following:
- 1. Software operating and upgrade manuals.
 - 2. Names, versions, and website addresses for locations of installed software.
 - 3. Device address list.
 - 4. Printout of software application and graphic screens.
 - 5. Testing and adjusting of panic and emergency power features.
 - 6. For lighting controls, include the following:
 - a. Adjustments of scene preset controls, adjustable fade rates, and fade overrides.
 - b. Operation of adjustable zone controls.
- C. Demonstration: With assistance from factory-authorized service representatives, demonstrate to Owner's maintenance and clerical personnel how to operate the following systems and equipment:
- 1. Lighting control devices.
 - 2. Lighting control systems.
- D. Training: With assistance from factory-authorized service representatives, train Owner's maintenance personnel on the following topics:
- 1. How to adjust, operate, and maintain lighting control systems.
 - 2. How to adjust, operate, and maintain luminaires specified in Section 265619 "LED Exterior Lighting."

END OF SECTION 260010

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Copper building wire rated 600 V or less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: Indicate type, use, location, and termination locations.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency.
- B. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Member company of NETA.
 - 1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

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1. Alpha Wire Company.
2. Belden Inc.
3. Encore Wire Corporation.
4. General Cable Technologies Corporation.
5. Okonite Company (The).
6. Southwire Company.
7. Or approved equal.

C. Standards:

1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
2. RoHS compliant.
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."

D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.

E. Conductor Insulation:

1. Type THHN and Type THWN-2: Comply with UL 83.

2.2 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. 3M Electrical Products.
2. AFC Cable Systems; a part of Atkore International.
3. Gardner Bender.
4. Hubbell Power Systems, Inc.
5. Ideal Industries, Inc.
6. ILSCO.
7. NSi Industries LLC.
8. O-Z/Gedney; a brand of Emerson Industrial Automation.
9. Thomas & Betts Corporation; A Member of the ABB Group.
10. Or approved equal.

C. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.

D. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.

1. Material: Copper.
2. Type: One hole with long barrels.
3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper; Stranded for No. 12 AWG and larger.
- B. Branch Circuits: Copper. Stranded for No. 12 AWG and larger.

3.2 CONDUCTOR INSULATION APPLICATIONS AND WIRING METHODS

- A. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway.
- B. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN/THWN-2, single conductors in raceway.
- C. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.
- D. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN/THWN-2, single conductors in raceway.
- E. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway .

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor and identify as spare conductor.

3.6 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Section 07 84 13 "Penetration Firestopping."

3.7 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- C. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.
- D. Perform tests and inspections with the assistance of a factory-authorized service representative.
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors for compliance with requirements.
 - 2. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.

- c. Inspect compression-applied connectors for correct cable match and indentation.
 - d. Inspect for correct identification.
 - e. Inspect cable jacket and condition.
 - f. Insulation-resistance test on each conductor for ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.
 - g. Continuity test on each conductor and cable.
 - h. Uniform resistance of parallel conductors.
- E. Cables will be considered defective if they do not pass tests and inspections.
- F. Prepare test and inspection reports to record the following:
- 1. Procedures used.
 - 2. Results that comply with requirements.
 - 3. Results that do not comply with requirements, and corrective action taken to achieve compliance with requirements.

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes grounding and bonding systems and equipment.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing agency and testing agency's field supervisor.
- B. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Certified by NETA.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. 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.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

2.2 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Dossert; AFL Telecommunications LLC.
 2. ERICO; a brand of nVent.
 3. Fushi Copperweld Inc.
 4. Galvan Industries, Inc.; Electrical Products Division, LLC.
 5. Harger Lightning & Grounding.
 6. Hubbell Incorporated (Construction and Energy Group).
 7. ILSCO.
 8. O-Z/Gedney; a brand of Emerson Industrial Automation.
 9. Thomas & Betts Corporation; A Member of the ABB Group.
 10. Or approved equal.

2.3 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
1. Solid Conductors: ASTM B3.
 2. Stranded Conductors: ASTM B8.
 3. Tinned Conductors: ASTM B33.
 4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
 5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
 6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.

2.4 CONNECTORS

- A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
- B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
- C. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless compression-type wire terminals, and long-barrel, two-bolt connection to ground bus bar.
- D. Bus-Bar Connectors: Compression type, copper or copper alloy, with two wire terminals.
- E. Beam Clamps: Mechanical type, terminal, ground wire access from four directions, with dual, tin-plated or silicon bronze bolts.
- F. Cable-to-Cable Connectors: Compression type, copper or copper alloy.

- G. Conduit Hubs: Mechanical type, terminal with threaded hub.
- H. Lay-in Lug Connector: Mechanical type, copper rated for direct burial terminal with set screw.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 10 AWG and smaller, and stranded conductors for No. 8 AWG and larger unless otherwise indicated.
- B. Grounding Conductors: Green-colored insulation.
- C. Conductor Terminations and Connections:
 - 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 - 2. Connections to Structural Steel: Welded connectors.

3.2 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.
- B. Air-Duct Equipment Circuits: Install insulated equipment grounding conductor to duct-mounted electrical devices operating at 120 V and more, including air cleaners, heaters, dampers, humidifiers, and other duct electrical equipment. Bond conductor to each unit and to air duct and connected metallic piping.

3.3 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
 - 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 - 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
 - 3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
- C. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact are galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Perform tests and inspections .
- C. Tests and Inspections:
 1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 2. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
 3. Test completed grounding system at each location where a maximum ground-resistance level is specified.
 4. Test the resistance of all bonding jumpers using the 2-point method according to NETA recommendations.
- D. Grounding system will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.
- F. Report measured ground resistances that exceed the following values:
 1. Power and Lighting Equipment or System with Capacity of 500 kVA and Less: 25 ohms.
- G. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Steel slotted support systems.
2. Conduit and cable support devices.
3. Support for conductors in vertical conduit.
4. Mounting, anchoring, and attachment components, including powder-actuated fasteners, mechanical expansion anchors, concrete inserts, clamps, through bolts, toggle bolts, and hanger rods.

1.3 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 the following:
 - a. Slotted support systems, hardware, and accessories.
 - b. Clamps.
 - c. Hangers.
 - d. Sockets.
 - e. Eye nuts.
 - f. Fasteners.
 - g. Anchors.
 - h. Saddles.
 - i. Brackets.
2. Include rated capacities and furnished specialties and accessories.

1.4 INFORMATIONAL SUBMITTALS

A. Seismic Qualification Data: Certificates, for hangers and supports for electrical equipment and systems, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Hangers and supports shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 1. The term "withstand" means "the supported equipment and systems will remain in place without separation of any parts when subjected to the seismic forces specified and the supported equipment and systems will be fully operational after the seismic event."
 2. Component Importance Factor: 1.0.
- B. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 1. Flame Rating: Class 1.
 2. Self-extinguishing according to ASTM D635.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32-inch-diameter holes at a maximum of 8 inches on centers (o.c.) in at least one surface.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Allied Tube & Conduit; a part of Atkore International.
 - b. B-line, an Eaton business.
 - c. G-Strut.
 - d. Thomas & Betts Corporation; A Member of the ABB Group.
 - e. Unistrut; Part of Atkore International.
 - f. Or approved equal.
 2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
 3. Material for Channel, Fittings, and Accessories: Galvanized steel.
 4. Channel Width: Selected for applicable load criteria [
 5. Metallic Coatings: Outdoor or indoor damp locations shall be hot-dip galvanized after fabrication and applied according to MFMA-4. Indoor normally dry locations shall be electro-galvanized according to MFMA-4.
 6. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

- C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be made of malleable iron.
- D. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - 1. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened Portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) B-line, an Eaton business.
 - 2) Hilti, Inc.
 - 3) ITW Ramset/Red Head; Illinois Tool Works, Inc.
 - 4) MKT Fastening, LLC.
 - 5) Or approved equal.
 - 2. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
 - 3. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM F3125/F3125M, Grade A325.
 - 4. Toggle Bolts: All-steel springhead type.
 - 5. Hanger Rods: Threaded steel.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with the following standards for application and installation requirements of hangers and supports, except where requirements on Drawings or in this Section are stricter:
 - 1. NECA 1.
 - 2. NECA 101
 - 3. NECA 102.
 - 4. NECA 105.
 - 5. NECA 111.
- B. Comply with requirements in Section 07 84 13 "Penetration Firestopping" for firestopping materials and installation for penetrations through fire-rated walls, ceilings, and assemblies.
- C. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."
- D. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT, and GRC as required by NFPA 70. Minimum rod size shall be 1/4 inch in diameter.

- E. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with single-bolt conduit clamps using spring friction action for retention in support channel.
- F. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings, and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT may be supported by openings through structure members, according to NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To Wood: Fasten with lag screws or through bolts.
 - 2. To New Concrete: Bolt to concrete inserts.
 - 3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 4. To Existing Concrete: Expansion anchor fasteners.
 - 5. To Steel: Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69.
 - 6. To Light Steel: Sheet metal screws.
 - 7. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that comply with seismic-restraint strength and anchorage requirements.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils.
- B. Touchup: Comply with requirements in Section 099113 "Exterior Painting" Section 099123 "Interior Painting" for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.
- C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A780.

END OF SECTION 260529

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Metal conduits and fittings.
 - 2. Metal wireways and auxiliary gutters.
 - 3. Boxes, enclosures, and cabinets.

1.3 DEFINITIONS

- A. GRC: Galvanized rigid steel conduit.

1.4 ACTION SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

1.5 INFORMATIONAL SUBMITTALS

- A. Seismic Qualification Data: Certificates, for enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
 - 4. Detailed description of conduit support devices and interconnections on which the certification is based and their installation requirements.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Metal Conduit:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Allied Tube & Conduit; a part of Atkore International.
 - b. Republic Conduit.
 - c. Southwire Company.
 - d. Western Tube and Conduit Corporation.
 - e. Wheatland Tube Company.
 - f. Or approved equal.
2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
3. GRC: Comply with ANSI C80.1 and UL 6.
4. EMT: Comply with ANSI C80.3 and UL 797.
5. FMC: Comply with UL 1; zinc-coated steel.
6. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

B. Metal Fittings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Allied Tube & Conduit; a part of Atkore International.
 - b. Republic Conduit.
 - c. Western Tube and Conduit Corporation.
 - d. Wheatland Tube Company.
 - e. Or approved equal.
2. Comply with NEMA FB 1 and UL 514B.
3. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
4. Fittings, General: Listed and labeled for type of conduit, location, and use.
5. Fittings for EMT:
 - a. Material: Steel.
 - b. Type: Compression.
6. Expansion Fittings: Steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.

2.2 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. B-line, an Eaton business.
 2. Hoffman; a brand of nVent.
 3. Square D.
 4. Or approved equal.
- B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1 or Type 3R unless otherwise indicated, and sized according to NFPA 70.
1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Screw-cover type unless otherwise indicated.
- E. Finish: Manufacturer's standard enamel finish.

2.3 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Hoffman; a brand of nVent.
 2. Hubbell Incorporated.
 3. Or approved equal.
- B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover. Cast aluminum boxes are not acceptable.
- E. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb. Outlet boxes designed for attachment of luminaires weighing more than 50 lb shall be listed and marked for the maximum allowable weight. Cast outlet boxes for luminaires shall be cast iron or ferrous alloy. Cast aluminum is not acceptable.
- F. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- G. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, galvanized, cast iron with gasketed cover.
- H. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- I. Device Box Dimensions: Minimum size 4 inches square by 2-1/8 inches deep.

- J. Gangable boxes are allowed.
- K. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1 or Type 3R with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- L. Cabinets:
 - 1. NEMA 250, Type 1 or Type 3R galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 - 2. Hinged door in front cover with flush latch and concealed hinge.
 - 3. Key latch to match panelboards.
 - 4. Metal barriers to separate wiring of different systems and voltage.
 - 5. Accessory feet where required for freestanding equipment.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed Conduit: GRC.
 - 2. Concealed Conduit, Aboveground: GRC .
 - 3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC not over 6 feet in length.
 - 4. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Indoors: Apply raceway products as specified below unless otherwise indicated:
 - 1. Exposed, Above 8'-0", Not Subject to Physical Damage: EMT.
 - 2. Exposed, At 8'-0" or Below, Not Subject to Severe Physical Damage: GRC.
 - 3. Exposed and Subject to Severe Physical Damage: GRC.
 - a. Mechanical rooms.
 - 4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
 - 5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment) and light fixtures: FMC, except use LFMC in damp or wet locations; not over 6 feet in length.
 - 6. Damp or Wet Locations: GRC.
 - 7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings. Comply with NEMA FB 2.10.
 2. EMT: Use compression, steel fittings. Comply with NEMA FB 2.10.
 3. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Do not install aluminum conduits, boxes, or fittings.
- F. Install surface raceways only where indicated on Drawings.

3.2 INSTALLATION

- A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- B. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter.
- C. Do not install raceways or electrical items on any rotating equipment.
- D. Do not fasten conduits onto the bottom side of a metal deck roof.
- E. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- F. Complete raceway installation before starting conductor installation.
- G. Arrange stub-ups so curved portions of bends are not visible above finished slab.
- H. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- I. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.
- J. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- K. Support conduit within 12 inches of enclosures to which attached.
- L. Do not install raceways embedded in slabs.
- M. Stub-Ups to Above Recessed Ceilings:
1. Use EMT, or GRC for raceways.
 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.

- N. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- O. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- P. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- Q. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- R. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- S. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
- T. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- U. Comply with manufacturer's written instructions for solvent welding RNC and fittings.
- V. Expansion-Joint Fittings:
 - 1. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
 - 2. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- W. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for recessed and semi-recessed luminaires, equipment subject to vibration, noise transmission, or movement; and for motors.
 - 1. Use LFMC in damp or wet locations subject to severe physical damage.
 - 2. Use LFMC in damp or wet locations not subject to severe physical damage.
- X. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- Y. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.
- Z. Horizontally separate boxes mounted on opposite sides of walls, so they are not in the same vertical channel.

- AA. Locate boxes so that cover or plate will not span different building finishes.
- BB. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- CC. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- DD. The green insulated ground (bond) wires shall be spliced together within the outlet box. A green insulated bonding jumper shall be provided from the splice to the box body. Attachment to the box body shall be provided using a tapped #10-32 x 3/8" screw minimum. A green insulated bonding jumper shall be provided from the splice to the receptacle ground screw even with self-grounding receptacles.

3.3 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION 260533

SECTION 260548.16 - SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Restraints - rigid type.
2. Restraints - cable type.
3. Restraint accessories.
4. Post-installed concrete anchors.
5. Concrete inserts.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.
2. Section 260529 "Hangers and Supports for Electrical Systems" for commonly used electrical supports and installation requirements.

1.2 DEFINITIONS

- A. OSHPD: Office of Statewide Health Planning and Development (for the State of California owned and regulated medical facilities).

1.3 COORDINATION

A. Tests and Inspections:

1. Schedule test with Owner, through Architect, before connecting anchorage device to restrained component (unless postconnection testing has been approved), and provide notice at least seven days in advance.
2. Obtain Architect's approval before transmitting test loads to structure. Provide temporary load-spreading members.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Restraints - rigid type.
2. Restraints - cable type.
3. Restraint accessories.
4. Post-installed concrete anchors.
5. Concrete inserts.

- B. Field quality-control reports.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Seismic-Restraint Device Load Ratings: Devices to be tested and rated in accordance with applicable code requirements and authorities having jurisdiction. Devices to be listed by a nationally recognized third party that requires periodic follow-up inspections and has a listing directory available to the public. Provide third-party listing by one or more of the following: an agency acceptable to authorities having jurisdiction.
- B. Consequential Damage: Provide additional seismic and wind-load restraints for suspended components or anchorage of floor-, roof-, or wall-mounted components so that failure of a non-essential or essential component does not cause failure of any other essential building component.
- C. Fire/Smoke Resistance: Seismic- restraint devices that are not constructed of ferrous metals must have a maximum flame-spread index of 25 and maximum smoke-developed index of 50 when tested and labeled by qualified testing laboratory in accordance with ASTM E84 or UL 723.
- D. Component Supports:
 - 1. Load ratings, features, and applications of all reinforcement components must be based on testing standards of qualified testing laboratory.

2.2 RESTRAINTS - RIGID TYPE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. CADDY; brand of nVent Electrical plc.
 - 2. California Dynamics Corporation.
 - 3. Cooper B-line; brand of Eaton, Electrical Sector.
 - 4. Hilti, Inc.
 - 5. Unistrut; Atkore International.
 - 6. Or approved equal.
- B. Description: Shop- or field-fabricated bracing assembly made of ANSI/AISI S110-07-S1 slotted steel channels, ANSI/ASTM A53/A53M steel pipe, or other rigid steel brace member. Includes accessories for attachment to braced component at one end and to building structure at the other end and other matching components and with corrosion-resistant coating; rated in tension, compression, and torsion forces.

2.3 RESTRAINTS - CABLE TYPE

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. CADDY; brand of nVent Electrical plc.
 2. Cooper B-line; brand of Eaton, Electrical Sector.
 3. Gripple Inc.
 4. Loos & Co. Inc.
 5. VMC GROUP.
 6. Or approved equal.
- B. Seismic-Restraint Cables: ASTM A492 stainless steel cables. End connections made of steel assemblies with thimbles, brackets, swivel, and bolts designed for seismic-restraining cable service; with fittings attached by means of poured socket, swaged socket or mechanical (Flemish eye) loop.
- C. Restraint cable assembly and cable fittings must comply with ASCE/SEI 19. Cable fittings and complete cable assembly must maintain the minimum cable breaking force. U-shaped cable clips and wedge-type end fittings do not comply and are unacceptable.

2.4 RESTRAINT ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. CADDY; brand of nVent Electrical plc.
 2. Cooper B-line; brand of Eaton, Electrical Sector.
 3. Hilti, Inc.
 4. Loos & Co. Inc.
 5. Mason Industries, Inc.
 6. Unistrut; Atkore International.
 7. Or approved equal.
- B. Hanger-Rod Stiffener: Steel tube or steel slotted-support-system sleeve with internally bolted connections to hanger rod. Non-metallic stiffeners are unacceptable.
- C. Hinged and Swivel Brace Attachments: Multifunctional steel connectors for attaching hangers to rigid channel bracings and restraint cables.
- D. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for rigid equipment mountings, and matched to type and size of attachment devices used.
- E. Resilient Isolation Washers and Bushings: One-piece, molded, oil- and water-resistant neoprene, with a flat washer face.

2.5 POST-INSTALLED CONCRETE ANCHORS

A. Mechanical Anchor Bolts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Hilti, Inc.
 - b. Mason Industries, Inc.
 - c. Powers Fasteners.
 - d. Or approved equal.
2. Drilled-in and stud-wedge or female-wedge type in zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength for anchor and as tested according to ASTM E488/E488M.

B. Adhesive Anchor Bolts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Hilti, Inc.
 - b. Mason Industries, Inc.
 - c. Powers Fasteners.
 - d. Or approved equal.
2. Drilled-in and capsule anchor system containing PVC or urethane methacrylate-based resin and accelerator, or injected polymer or hybrid mortar adhesive. Provide anchor bolts and hardware with zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E488/E488M.

C. Provide post-installed concrete anchors that have been prequalified for use in seismic applications.

1. Prequalify post-installed anchors in concrete in accordance with ACI 355.2 or other approved qualification testing procedures.
2. Prequalify post-installed anchors in masonry in accordance with approved qualification procedures.

D. Expansion-type anchor bolts are not permitted for equipment in excess of 10 hp that is not vibration isolated.

1. Undercut expansion anchors are permitted.

2.6 SOURCE QUALITY CONTROL

- A. Product Data: Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.

1. Include rated load capacity for each seismic- and wind-load-restraint device.
2. Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of seismic- and wind-load-restraint component used.
3. Annotate types and sizes of seismic restraints and accessories, complete with listing markings or report numbers and load rating in tension and compression as evaluated by an agency acceptable to authorities having jurisdiction.
4. Annotate to indicate application of each product submitted and compliance with requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and equipment to receive seismic and wind-load control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for reinforcement and cast-in-place anchors to verify actual locations before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLICATIONS

- A. Multiple Raceways or Cables: Secure raceways and cables to trapeze member with clamps approved for application by an agency acceptable to authorities having jurisdiction.
- B. Hanger-Rod Stiffeners: Install where required to prevent buckling of hanger rods caused by seismic forces.
- C. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry static and seismic loads within specified loading limits.

3.3 INSTALLATION OF SEISMIC-RESTRAINT CONTROL DEVICES

- A. Provide seismic-restraint devices for systems and equipment where the Specifications indicate they are to be installed on specific equipment and systems, and where required by applicable codes.
 1. Install equipment and devices to withstand the effects of earthquake motions.
- B. Installation of seismic and wind-load restraints must not cause any stresses, misalignment, or change of position of equipment or conduits.
- C. Equipment Restraints:

1. Install resilient bolt isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125 inch.
 2. Install seismic-restraint devices using methods approved by an agency acceptable to authorities having jurisdiction that provides required submittals for component.
- D. Raceway, Cable, and Wireway Support and Hanger Restraints:
1. Install resilient bolt isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125 inch.
 2. Install seismic-restraint devices using methods approved by an agency acceptable to authorities having jurisdiction that provides required submittals for component.
- E. Equipment and Hanger Restraints:
1. Install resilient, bolt-isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125 inch.
 2. Install seismic-restraint devices using methods approved by an agency acceptable to authorities having jurisdiction providing required submittals for component.
- F. Install cables so they do not bend across edges of adjacent equipment or building structure.
- G. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient media where equipment or equipment-mounting channels are attached to wall.
- H. Attachment to Structure: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.
- I. Post-Installed Concrete Anchors:
1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify structural engineer if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid prestressed tendons, electrical and telecommunications conduit, and gas lines.
 2. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
 3. Mechanical-Type Anchor Bolts: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors must be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
 4. Adhesive-Type Anchor Bolts: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
 5. Set anchors to manufacturer's recommended torque using a torque wrench.
 6. Install zinc-coated steel anchors for interior and stainless-steel anchors for exterior applications.

3.4 ACCOMMODATION OF DIFFERENTIAL SEISMIC MOTION

- A. Install flexible connections in runs of raceways, cables, wireways, cable trays, and busways where they cross seismic joints, where adjacent sections or branches are supported by different structural elements, and where connection is terminated to equipment that is anchored to a different structural element from the one supporting them as they approach equipment.

3.5 FIELD QUALITY CONTROL

- A. Field tests must be witnessed by authorities having jurisdiction.
- B. Tests and Inspections:
 - 1. Provide evidence of recent calibration of test equipment by a testing agency acceptable to authorities having jurisdiction.
 - 2. Test no fewer than four of each type and size of installed anchors and fasteners selected by Architect.
 - 3. Test to 90 percent of rated proof load of device.
- C. Nonconforming Work:
 - 1. Seismic controls will be considered defective if they do not pass tests and inspections.
 - 2. Remove and replace malfunctioning units and retest as specified above.
- D. Field Quality-Control Reports: Collect, assemble, and submit test and inspection reports.

END OF SECTION 260548.16

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Labels.
2. Tapes and stencils.
3. Signs.
4. Cable ties.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 LABELS

A. Performance Criteria:

1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
2. Listing Criteria: UL CCN PGDQ2 for components; including UL 969.

B. UL PGDQ2 - Self-Adhesive Wraparound Labels: Preprinted, 3 mil thick, polyester flexible label with acrylic pressure-sensitive adhesive.

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. Brady Corporation.
 - b. Brother International Corporation.
 - c. Ideal Industries, Inc.
 - d. Panduit Corp.
 - e. Or approved equal.

2. Self-Lamination: Clear; UV-, weather-, and chemical-resistant; self-laminating, with protective shield over legend. Size labels such that clear shield overlaps entire printed legend.
 3. Marker for Labels:
 - a. Permanent, waterproof, black ink marker recommended by tag manufacturer.
 - b. Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.
- C. UL PGDQ2 - Self-Adhesive Labels: Polyester, thermal, transfer-printed, 3 mil thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
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. Brady Corporation.
 - b. Brother International Corporation.
 - c. Ideal Industries, Inc.
 - d. Panduit Corp.
 - e. Or approved equal.
 2. Minimum Nominal Size:
 - a. 1-1/2 by 6 inch for raceway and conductors.
 - b. 3-1/2 by 5 inch for equipment.
 - c. As required by authorities having jurisdiction.

2.2 TAPES AND STENCILS

- A. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mil thick by 1 to 2 inch wide; compounded for outdoor use.
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. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. Marking Services Inc.
 - d. emedco.
 - e. Or approved equal.

2.3 SIGNS

- A. Laminated Acrylic or Melamine Plastic Signs:

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. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. Marking Services Inc.
 - d. emedco.
 - e. Or approved equal.
2. Engraved legend.
3. Thickness:
 - a. For signs up to 20 sq. inch, minimum 1/16 inch thick.
 - b. For signs larger than 20 sq. inch, 1/8 inch thick.
 - c. Engraved legend with black letters on white face.
 - d. Punched or drilled for mechanical fasteners with 1/4 inch grommets in corners for mounting.
 - e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.4 CABLE TIES

- 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:
 1. HellermannTyton.
 2. Ideal Industries, Inc.
 3. Marking Services Inc.
 4. Panduit Corp.
 5. Or approved equal.
- B. Performance Criteria:
 1. Regulatory Requirements: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 2. Listing Criteria: UL CCN ZODZ; including UL 1565 or UL 62275.
- C. UL ZODZ - General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
 1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 deg F in accordance with ASTM D638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black, except where used for color-coding.
- D. UL ZODZ - UV-Stabilized Cable Ties: Fungus inert, designed for continuous exposure to exterior sunlight, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.

1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 deg F in accordance with ASTM D638: 12,000 psi.
 3. Temperature Range: Minus 40 to plus 185 deg F.
 4. Color: Black.
- E. UL ZODZ - Plenum-Rated Cable Ties: Self-extinguishing, UV stabilized, one piece, and self-locking.
1. Minimum Width: 3/16 inch.
 2. Tensile Strength at 73 deg F in accordance with ASTM D638: 7000 psi.
 3. UL 94 Flame Rating: 94V-0.
 4. Temperature Range: Minus 50 to plus 284 deg F.
 5. Color: Black.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 SELECTION OF COLORS AND IDENTIFICATION MARKINGS

- A. Comply with 29 CFR 1910.144 for color identification of hazards, and the following:
1. Fire-protection and fire-alarm] equipment, including raceways, must be finished, painted, or suitably marked safety red.
- B. Pipe and Conduit Labeling: Comply with ASME A13.1.
- C. Color-Coding for Phase- and Voltage-Level Identification, 1000 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors. Match existing system color code.
1. Color must be factory applied or field applied for sizes larger than 6 AWG when permitted by authorities having jurisdiction.
 2. Colors for 208Y/120 V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 3. Colors for 480Y/277 V Circuits:
 - a. Phase A: Brown.
 - b. Phase B: Orange.
 - c. Phase C: Yellow.

4. Color for Neutral (Grounded Conductor): White or gray.
 5. Color for Equipment Ground: Green.
- D. Color-Coding Instructional Signs: Self-adhesive labels, including color code for grounded and ungrounded conductors.
- E. Accessible Fittings for Raceways: Identify cover of junction and pull box of the following systems with wiring system legend and system voltage. System legends shall be as follows:
1. "POWER"
 2. "COMM"
 3. "LTG CONTROL"
- F. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.
- G. Pull and Junction Boxes, 1000 V or Less: For conductors in pull and junction boxes use self-adhesive wraparound labels to identify circuit.
1. Locate identification at changes in direction, at penetrations of walls and floors, at 50 ft maximum intervals in straight runs, and at 25 ft maximum intervals in congested areas.
- H. Conductors to Be Extended in Future: Attach marker tape to conductors and list source.
- I. Cover Plates: Label individual cover plates with self-adhesive labels. Place label at top of cover plate. Label cover plate with the following information, in the order listed:
1. Panelboard designation.
 2. Colon or dash.
 3. Branch circuit number.
- J. Equipment Identification Labels:
1. Black letters on white field.
 2. Indoor Equipment: Laminated acrylic or melamine plastic sign.
 3. Outdoor Equipment: Laminated acrylic or melamine sign.
 4. Equipment to Be Labeled:
 - a. Racks, Frames, and Enclosures: Identify front and rear of each with self-adhesive labels containing equipment designation.
 - b. Panelboards: Typewritten directory of circuits in location provided by panelboard manufacturer. Panelboard identification must be in form of engraved, laminated acrylic or melamine label.
 - c. Enclosures and electrical cabinets.
 - d. Access doors and panels for concealed electrical items.
 - e. Enclosed switches.
 - f. Enclosed circuit breakers.
 - g. Enclosed controllers.
 - h. Remote-controlled switches, dimmer modules, and control devices.
- K. Cable Ties: General purpose, for attaching tags, except as listed below:

1. Outdoors: UV-stabilized nylon.
2. Indoors above ceilings: Plenum rated.

3.3 SELECTION OF SIGNS AND HAZARD MARKINGS

- A. Comply with 29 CFR 1910.145 for danger, caution, warning, and safety instruction signs.
- B. Signs, labels, and tags required for personnel safety must comply with the following standards:
 1. Safety Colors: NEMA Z535.1.
 2. Facility Safety Signs: NEMA Z535.2.
 3. Safety Symbols: NEMA Z535.3.
 4. Product Safety Signs and Labels: NEMA Z535.4.
 5. Safety Tags and Barricade Tapes for Temporary Hazards: NEMA Z535.5.
- C. Electrical Hazard Warnings:
 1. Arc-Flash Hazard Warning: Self-adhesive labels. Comply with NFPA 70E requirements for arc-flash hazard warning labels.
 2. Multiple Power Sources Warning Legend: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 3. OSHA Workspace Clearance Warning Legend: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 3 FEET MINIMUM."
- D. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive labels.
 1. Apply to exterior of door, cover, or other access.
 2. For equipment with multiple power or control sources, apply to door or cover of equipment, including, but not limited to, the following:
 - a. Power-transfer switches.
 - b. Controls with external control power connections.
- E. Operating Instruction Signs: Self-adhesive labels.

3.4 INSTALLATION

- A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.
- B. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).

- C. Fasteners for Labels and Signs: Self-tapping, stainless steel screws or stainless steel machine screws with nuts and flat and lock washers.
- D. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- E. Install identifying devices before installing acoustical ceilings and similar concealment.
- F. Verify identity of item before installing identification products.
- G. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- H. Apply identification devices to surfaces that require finish after completing finish work.
- I. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.
- J. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from floor.
- K. Self-Adhesive Wraparound Labels: Secure tight to surface at location with high visibility and accessibility.
- L. Self-Adhesive Vinyl Tape: Secure tight to surface at location with high visibility and accessibility.
 - 1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for minimum distance of 6 inch where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.
- M. Laminated Acrylic or Melamine Plastic Signs: Attach signs with mechanical fasteners appropriate to location and substrate.

END OF SECTION 260553

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Receptacles, receptacles with integral GFCI, and associated device plates.
2. Weather-resistant receptacles.
3. Manual motor controllers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Hubbell Incorporated; Wiring Device-Kellems (Hubbell). Or approved equal.

B. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 GENERAL WIRING-DEVICE REQUIREMENTS

A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NFPA 70.

C. Devices that are manufactured for use with modular plug-in connectors are not acceptable.

2.3 STRAIGHT-BLADE RECEPTACLES

A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.

1. Products: Subject to compliance with requirements, provide the following:

- a. Hubbell; HBL5351 (single), HBL5352 (duplex), or approved equal.

2.4 GFCI RECEPTACLES

A. General Description:

1. Straight blade, feed-through type.
2. Comply with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596.
3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.

B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:

1. Products: Subject to compliance with requirements, provide the following:
 - a. Hubbell; GFR5352L or approved equal.
2. Where installed outdoors, the receptacles shall be listed as weather resistant.

2.5 MANUAL MOTOR CONTROLLERS

A. Fractional Horsepower Manual Controllers (FHPMC): "Quick-make, quick-break" toggle action; marked to show whether unit is off, on, or tripped.

1. Products: Subject to compliance with requirements, provide products by one of the following:
 - a. Allen-Bradley.
 - b. Eaton.
 - c. Siemens Industry, Inc., Energy Management Division.
 - d. Square D; by Schneider Electric.
 - e. Or approved equal.
2. Configuration: Nonreversing.
3. Overload Relays: Inverse-time-current characteristics; NEMA ICS 2, Class 10 tripping characteristics; heaters matched to nameplate full-load current of actual protected motor; external reset push button; bimetallic type.
4. Pilot Light: Red.
5. Enclosure: NEMA 4 for outdoor locations.

2.6 WALL PLATES

A. Single and combination types shall match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: Thermoplastic with color to match device. Shall be by same manufacturer as device.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Damp Locations: Thermoplastic with spring-loaded lift cover, and listed and labeled for use in wet and damp locations.

- B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with Type 3R, weather-resistant, die-cast aluminum with lockable cover, listed for wet locations while in use.

2.7 FINISHES

- A. Device Color:
 - 1. Wiring Devices Connected to Normal Power System: White unless otherwise indicated or required by NFPA 70 or device listing.
- B. Wall Plate Color: For plastic covers, match device color.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
- B. Coordination with Other Trades:
 - 1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
 - 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 - 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 - 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 - 1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
 - 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 - 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails. Minimum length shall be 6 inches.
 - 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pig tailing existing conductors is permitted, provided the outlet box is large enough.
- D. Device Installation:

1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Use clamp style side/back wiring with binding-head screw terminals. Wrap stranded conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
5. Use a torque screwdriver when a torque is recommended or required by manufacturer.
6. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
7. Tighten unused terminal screws on the device.
8. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted general use receptacles up , and on horizontally mounted receptacles to the left.
2. Install ground pin of dedicated receptacles to facilitate orientation of connected cord set or power supply.

F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

3.2 GFCI RECEPTACLES

- A. Install non-feed-through-type GFCI receptacles where protection of downstream receptacles is not required.

3.3 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Test Instruments: Use instruments that comply with UL 1436.
2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.

B. Tests for Convenience Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.

4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
 5. Using the test plug, verify that the device and its outlet box are securely mounted.
 6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.
- C. Wiring device will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 262726

SECTION 262813 - FUSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Cartridge fuses rated 600 V ac and less for use in the following:
 - a. Control circuits.
 - b. Enclosed switches.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for spare-fuse cabinets. Include the following for each fuse type indicated:
 1. Ambient Temperature Adjustment Information: If ratings of fuses have been adjusted to accommodate ambient temperatures, provide list of fuses with adjusted ratings.
 - a. For each fuse having adjusted ratings, include location of fuse, original fuse rating, local ambient temperature, and adjusted fuse rating.
 - b. Provide manufacturer's technical data on which ambient temperature adjustment calculations are based.
 2. Dimensions and manufacturer's technical data on features, performance, electrical characteristics, and ratings.
 3. Current-limitation curves for fuses with current-limiting characteristics.
 4. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse. Submit in PDF format.
 5. Coordination charts and tables and related data.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 017700 "Closeout Procedures," include the following:

1. Ambient temperature adjustment information.
2. Current-limitation curves for fuses with current-limiting characteristics.
3. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse used on the Project. Submit in PDF format.
4. Coordination charts and tables and related data.

1.5 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. Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than three of each size and type.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Bussmann, an Eaton business.
 2. Littelfuse, Inc.
 3. Mersen USA.
 4. Or approved equal.
- B. Source Limitations: Obtain fuses, for use within a specific product or circuit, from single source from single manufacturer.

2.2 CARTRIDGE FUSES

- A. Characteristics: NEMA FU 1, current-limiting, nonrenewable cartridge fuses with voltage ratings consistent with circuit voltages.
 1. Type RK-5: 250-V, zero- to 600-A rating, 200 kAIC, time delay.
 2. Type CC: 600-V, zero- to 30-A rating, 200 kAIC, time delay.
- B. 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.
- C. Comply with NEMA FU 1 for cartridge fuses.
- D. Comply with NFPA 70.
- E. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size and with system short-circuit current levels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fuses before installation. Reject fuses that are moisture damaged or physically damaged.
- B. Examine holders to receive fuses for compliance with installation tolerances and other conditions affecting performance, such as rejection features.
- C. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.
- D. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FUSE APPLICATIONS

- A. Cartridge Fuses:
 - 1. Motor Branch Circuits: Class RK5, time delay.
 - 2. Control Transformer Circuits: Class CC, time delay, control transformer duty.
 - 3. Provide open-fuse indicator fuses or fuse covers with open fuse indication.

3.3 INSTALLATION

- A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.

3.4 IDENTIFICATION

- A. Install labels complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems" and indicating fuse replacement information inside of door of each fused switch and adjacent to each fuse block, socket, and holder.

END OF SECTION 262813

SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fusible switches.
2. Enclosures.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" for additional abbreviations, definitions, submittals, qualifications, testing agencies, and other Project requirements applicable to Work specified in this Section.

1.2 ACTION SUBMITTALS

A. Product Data:

1. For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
2. Enclosure types and details for types other than UL 50E, Type 1.
3. Current and voltage ratings.
4. Short-circuit current ratings (interrupting and withstand, as appropriate).
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.
6. Include time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device. Provide in PDF format.

B. Field Quality-Control Submittals:

1. Field quality-control reports.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranties.

1.4 CLOSEOUT SUBMITTALS

A. Warranty documentation.

ENCLOSED SWITCHES AND CIRCUIT
BREAKERS

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1.5 WARRANTY

- A. Special Installer Extended Warranty: Installer warrants that fabricated and installed enclosed switches and circuit breakers perform in accordance with specified requirements and agrees to repair or replace components or products that fail to perform as specified within extended-warranty period.
 - 1. Extended-Warranty Period: Two years from date of Substantial Completion; full coverage for labor, materials, and equipment.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Source Limitations: Obtain products from single manufacturer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.

2.2 FUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ABB, Electrification Business.
 - 2. Eaton.
 - 3. Siemens Industry, Inc., Energy Management Division.
 - 4. Square D; Schneider Electric USA.
 - 5. Or approved equal.
- B. Type HD, Heavy Duty:
 - 1. Single throw.
 - 2. Three pole.
 - 3. 600 V(ac).
 - 4. 200 A and smaller.
 - 5. UL 98 and NEMA KS 1, horsepower rated, with clips or bolt pads to accommodate specified fuses.
 - 6. Lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.
 - 3. Lugs: Mechanical type, suitable for number, size, and conductor material.

ENCLOSED SWITCHES AND CIRCUIT
BREAKERS

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2.3 ENCLOSURES

- A. Enclosed Switches and Circuit Breakers: UL 489, NEMA KS 1, UL 50E, and UL 50, to comply with environmental conditions at installed location.
- B. Enclosure Finish: Enclosure must be finished with gray baked enamel paint, electrodeposited on cleaned, phosphatized galvanized steel (UL 50E Types 3R, 12).
- C. Operating Mechanism: Cover interlock mechanism must have externally operated override. Override may not permanently disable interlock mechanism, which must return to locked position once override is released. Tool used to override cover interlock mechanism must not be required to enter enclosure in order to override interlock.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 1. Commencement of work will indicate Installer's acceptance of areas and conditions as satisfactory.

3.2 SELECTION OF ENCLOSURES

- A. Indoor, Dry and Clean Locations: UL 50E, Type 1.
- B. Outdoor Locations: UL 50E, Type 3R.

3.3 INSTALLATION

- A. Comply with manufacturer's published instructions.
- B. Special Techniques:
 - 1. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
 - 2. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
 - 3. Comply with mounting and anchoring requirements specified in Section 260548.16 "Seismic Controls for Electrical Systems."
 - 4. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
 - 5. Install fuses in fusible devices.

3.4 IDENTIFICATION

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
 2. Label each enclosure with engraved laminated-plastic nameplate, attached with epoxy.

3.5 FIELD QUALITY CONTROL

- A. Tests and Inspections for Switches:
1. Visual and Mechanical Inspection:
 - a. Inspect physical and mechanical condition.
 - b. Inspect anchorage, alignment, grounding, and clearances.
 - c. Verify that unit is clean.
 - d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
 - e. Verify that fuse sizes and types match the Specifications and Drawings.
 - f. Verify that each fuse has adequate mechanical support and contact integrity.
 - g. Inspect bolted electrical connections for high resistance using one of the following methods:
 - 1) Use low-resistance ohmmeter.
 - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of lowest value.
 - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
 - a) Bolt-torque levels must be in accordance with manufacturer's published data. In absence of manufacturer's published data, use NETA ATS Table 100.12.
 - h. Verify that operation and sequencing of interlocking systems is as described in the Specifications and shown on Drawings.
 - i. Verify correct phase barrier installation.
 - j. Verify lubrication of moving current-carrying parts and moving and sliding surfaces.
 2. Electrical Tests:
 - a. Perform resistance measurements through bolted connections with low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of lowest value.

ENCLOSED SWITCHES AND CIRCUIT
BREAKERS

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- b. Measure contact resistance across each switchblade fuseholder. Drop values may not exceed high level of manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of lowest value.
- c. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with switch closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In absence of manufacturer's published data, use Table 100.1 from NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
- d. Measure fuse resistance. Investigate fuse-resistance values that deviate from each other by more than 15 percent.

B. Nonconforming Work:

1. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
2. Remove and replace defective units and retest.

C. Collect, assemble, and submit test and inspection reports.

1. Test procedures used.
2. Include identification of each enclosed switch and circuit breaker tested and describe test results.
3. List deficiencies detected, remedial action taken, and observations after remedial action.

3.6 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

3.7 PROTECTION

- A. After installation, protect enclosed switches and circuit breakers from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

END OF SECTION 262816

SECTION 265619 - LED EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Luminaire types.
 - 2. Materials.
 - 3. Finishes.
 - 4. Luminaire support components.

1.2 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color rendering index.
- C. Fixture: See "Luminaire."
- D. IP: International Protection or Ingress Protection Rating.
- E. Lumen: Measured output of lamp and luminaire, or both.
- F. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of luminaire.
 - 1. Arrange in order of luminaire designation.
 - 2. Include data on features, accessories, and finishes.
 - 3. Include physical description and dimensions of luminaire.
 - 4. Lamps, include life, output (lumens, CCT, and CRI), and energy-efficiency data.
 - 5. Photometric data and adjustment factors based on laboratory tests, complying with IES LM-79, IES LM-80.
 - a. Manufacturer's Certified Data: Photometric data certified by manufacturer's laboratory with a current accreditation under the NVLAP for Energy Efficient Lighting Products.
 - b. Testing Agency Certified Data: For indicated luminaires, photometric data certified by a qualified independent testing agency. Photometric data for remaining luminaires shall be certified by manufacturer.
 - 6. Wiring diagrams for power, control, and signal wiring.
 - 7. Means of attaching luminaires to supports and indication that the attachment is suitable for components involved.

B. Shop Drawings:

1. Include plans, elevations, sections, and mounting and attachment details.
2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

C. Product Schedule: For luminaires and lamps. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Luminaires.
2. Structural members to which equipment and luminaires will be attached.

B. Qualification Data: For testing laboratory providing photometric data for luminaires.

C. Seismic Qualification Data: For luminaires, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

D. Product Certificates: For each type of the following:

1. Luminaire.

E. Product Test Reports: For each luminaire, for tests performed by manufacturer and witnessed by a qualified testing agency.

F. Source quality-control reports.

G. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires to include in operation and maintenance manuals.

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. Light engines: Two of each type and rating installed.
2. Glass, Acrylic, and Plastic Lenses, Covers, and Other Optical Parts: Two of each type and rating installed.
3. Diffusers and Lenses: Two of each type and rating installed.
4. Globes and Guards: Two of each type and rating installed.

1.7 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications:

1. Luminaire manufacturers' laboratory that is accredited under the NVLAP for Energy Efficient Lighting Products.
2. Provided by an independent agency, with the experience and capability to conduct the testing indicated, that is an NRTL as defined by OSHA in 29 CFR 1910.7, accredited under the NVLAP for Energy Efficient Lighting Products and complying with applicable IES testing standards.

B. Provide luminaires from a single manufacturer for each luminaire type.

C. Each luminaire type shall be binned within a three-step MacAdam Ellipse to ensure color consistency among luminaires.

D. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

E. Mockups: For exterior luminaires, complete with power and control connections.

1. Obtain Architect's approval of luminaires in mockups before starting installations.
2. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed work.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering prior to shipping.

1.9 FIELD CONDITIONS

A. Verify existing and proposed structures prior to the start of work associated with luminaire installation.

1.10 WARRANTY

- A. Warranty: Manufacturer and Installer agree to repair or replace components of of the LED lighting system(s) that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
 - a. Structural failures, including luminaire support components.
 - b. Faulty operation of luminaires and accessories.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - d. Failure of light engines, injector boxes, ethernet switches and other electronic power and control devices furnished by the fixture manufacturer.
 2. Warranty Period: 2 year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Seismic Performance:
1. Luminaires shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 2. Luminaires and lamps shall be labeled vibration and shock resistant.
 3. The term "withstand" means "the luminaire will remain in place without separation of any parts when subjected to the seismic forces specified and the luminaire will be fully operational during and after the seismic event."

2.2 LUMINAIRE REQUIREMENTS

- A. 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.
- B. UL Compliance: Comply with UL 1598 and listed for wet location, suitable for coastal environments.
- C. CRI: RGBW. CCT of 4000 K or 6500 K (white mode) as specified.
- D. L70 lamp life of 50,000 hours minimum.
- E. Lamps dimmable from 100 percent to 0 percent of maximum light output.
- F. Nominal Operating Voltage: 277 V ac.
- G. Source Limitations:
1. Obtain luminaires from single source from a single manufacturer.

2. For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.

2.3 LUMINAIRE TYPES

- A. Refer to the Lighting Fixture Schedule on the Drawings.

2.4 MATERIALS

- A. Metal Parts: Free of burrs and sharp corners and edges.
- B. Sheet Metal Components: Corrosion-resistant aluminum. Form and support to prevent warping and sagging.
- C. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.
- D. Diffusers and Globes:
 1. Acrylic Diffusers: 100 percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
 2. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.
- E. Lens and Refractor Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.
- F. Housings:
 1. Rigidly formed, weather- and light-tight enclosure that will not warp, sag, or deform in use.
 2. Provide filter/breather for enclosed luminaires.
- G. Factory-Applied Labels: Comply with UL 1598. Include recommended lamps. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

2.5 FINISHES

- A. Variations in Finishes: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

- B. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.
- C. Factory-Applied Finish for Aluminum luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
 - 2. Class I, Color-Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: Medium satin; Chemical Finish: Etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker), complying with AAMA 611.

2.6 LUMINAIRE SUPPORT COMPONENTS

- A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for channel and angle iron supports and nonmetallic channel and angle supports.

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. Examine roughing-in for luminaire electrical conduit to verify actual locations of conduit connections before luminaire installation.
- C. Examine walls, inside columns and roofs for suitable conditions where luminaires will be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Comply with NECA 1.
- B. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- C. Fasten luminaire to structural support.
- D. Supports:
 - 1. Sized and rated for luminaire weight.
 - 2. Able to maintain luminaire position after cleaning and relamping.

3. Support luminaires without causing deflection of finished surface.
 4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.
- E. Wiring Method: Install cables in raceways. Conceal raceways and cables.
- F. Install luminaires as indicated by details on the Drawings.
- G. Coordinate layout and installation of luminaires with other construction.
- H. Adjust luminaires that require field adjustment or aiming.
- I. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables" and Section 260533 "Raceways and Boxes for Electrical Systems" for wiring connections and wiring methods.

3.3 CORROSION PREVENTION

- A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.
- B. Steel Conduits: Comply with Section 260533 "Raceways and Boxes for Electrical Systems".

3.4 IDENTIFICATION

- A. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.5 FIELD QUALITY CONTROL

- A. Inspect each installed luminaire for damage. Replace damaged luminaires and components.
- B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
 2. Control Operation: Verify operation of DMX controls.
- C. Illumination Tests:
1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IES testing guide(s):
 - a. IES LM-5.
 - b. IES LM-50.
 - c. IES LM-52.
 - d. IES LM-64.
 - e. IES LM-72.

2. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.

D. Luminaire will be considered defective if it does not pass tests and inspections.

E. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain luminaires

3.7 ADJUSTING

A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting the direction of aim of luminaires to suit occupied conditions. Make up to two visits to Project during other-than-normal hours for this purpose. Some of this work may be required during hours of darkness.

1. During adjustment visits, inspect all luminaires. Replace luminaires that are defective.
2. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
3. Adjust the aim of luminaires in the presence of Architect.

END OF SECTION 265619

SUPPLEMENTARY SPECIAL PROVISIONS
APPENDICES

APPENDIX A
NOTICE OF EXEMPTION

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 92101-2400

FROM: City of San Diego
Engineering & Capital Projects Department
525 B Street, Suite 750, MS 908A
San Diego, CA 92101

_____ Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

Project Name: Air and Space Museum Roof Replacement

WBS No.: B-20116.02.06

Project Location-Specific: Proposed work will occur at the Air & Space Museum on 2001 Pan American Plaza, San Diego, CA 92101 within the Balboa Park East Mesa Precise Plan (Council District 3).

Project Location-City/County: San Diego/San Diego

Description of nature and purpose of the Project: The project proposes to renovate and rehabilitate the existing roof structure of the San Diego Air & Space Museum. Work includes the repainting of the building’s exterior as well as repair and replacement of the existing exterior cement plaster system, sheet metal fins, roof drains, and roof piping. A portion of roof drainage piping that extends to below grade in an existing parking lot will also be replaced. The lower donut-shaped roofing system will be removed and replaced. Re-coating of the existing tower/rotunda roofing system, replacement of fin lighting and roof screen wall lighting, as well as installation of new interior ladders and roof opening guards are also included in this project’s scope. All work has been determined to be consistent with the U.S. Secretary of Interior’s Standards and Guidelines.

Name of Public Agency Approving Project: City of San Diego

Name of Person or Agency Carrying Out Project: City of San Diego
Engineering and Capital Projects Department
Contact: Thomas Park, Senior Planner
Email/Phone No.: TPark@sandiego.gov / (619) 533-4612
525 B Street, Suite 750 (MS 908A), San Diego, CA 92101

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: Section 15301(a) and (d) (Existing Facilities), Section 15302 (d) (Replacement or Reconstruction), Section 15303 (e) (New Construction or Conversion of Small Structures), Section 15304 (f) (Minor Alterations to Land)
- Statutory Exemptions:

Reasons why project is exempt: The City of San Diego conducted an environmental review which determined that the project meets the categorical exemption criteria set forth in CEQA State Guidelines, Section 15301(a) and (d) (Existing Facilities), which allows for the repair, maintenance, and minor alteration of existing public structures involving negligible or no expansion of existing or former use, such as the repainting or repair of the building exterior and re-coating of existing roofing systems; Section 15302 (d) (Replacement or Reconstruction), which allows for the replacement and reconstruction of existing facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the

structure replaced, such as the replacement of existing roof drains, piping, roofing systems, and lighting systems; Section 15303 (e) (New Construction or Conversion of Small Structures), which allows for the construction of limited numbers of new, small facilities, such as the installation of new interior ladders and roof hatch guards; Section 15304 (f) (Minor Alterations to Land), which allows for minor public alterations in the condition of land which do not involve removal of healthy, mature, scenic trees, such as minor trenching and backfilling to install drain connections; and where the exceptions listed in Section 15300.2 would not apply. The project is located within the Balboa Park National Register of Historic Places (National Register Information System ID: 77000331), a designated historic district, and all work has been determined to be consistent with the U.S. Secretary of Interior's Standards and Guidelines.

Lead Agency Contact Person: Thomas Park, Senior Planner

Telephone: (619) 53304612

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.

Carrie Purcell

Carrie Purcell, Deputy Director

12/24/24

Date

Check One:

- (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.)

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 2 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

- 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).

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.) Zip:	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:		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

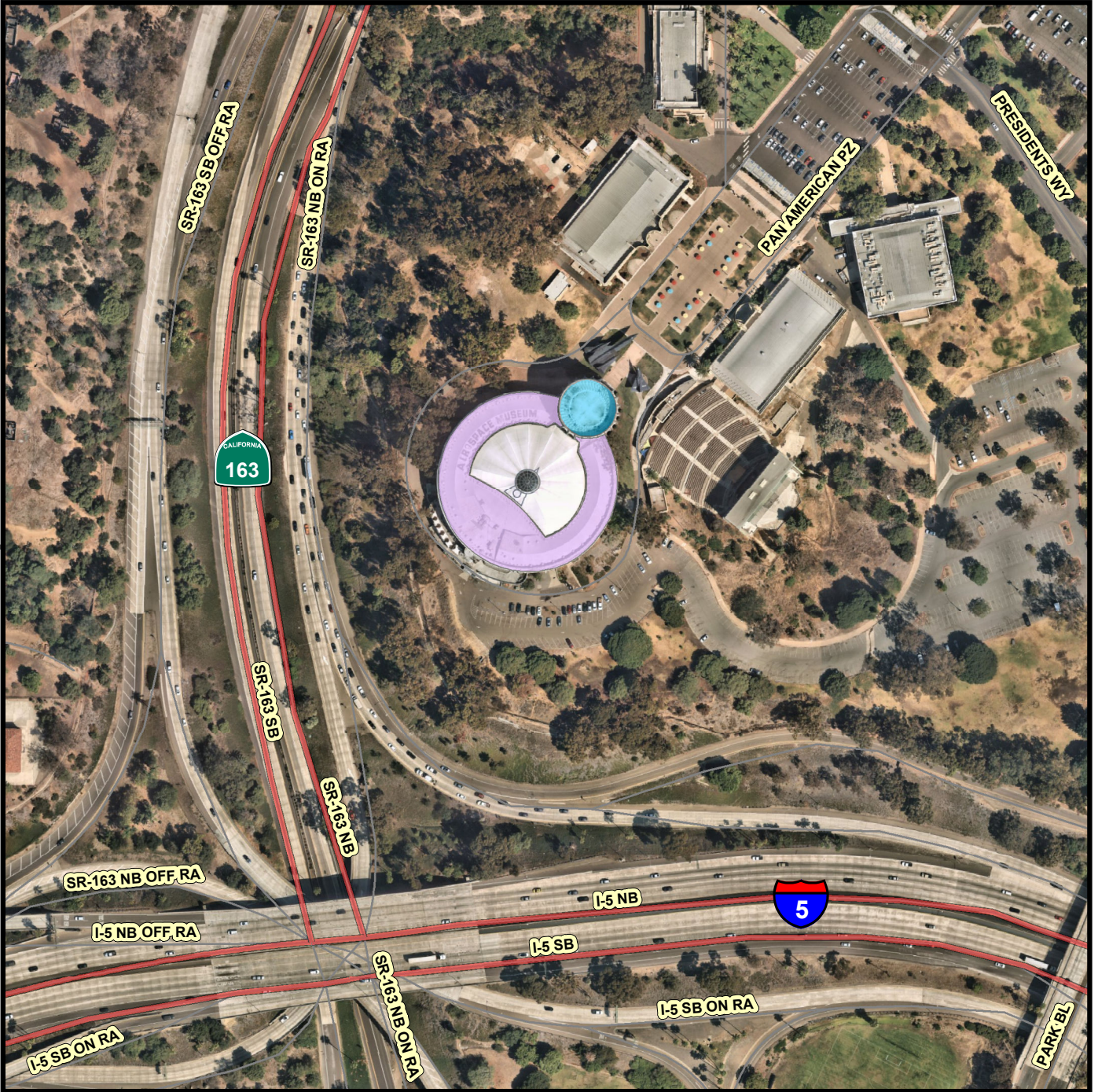
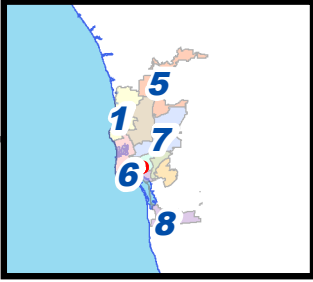
APPENDIX E
LOCATION MAP

Air & Space Museum Roof Replacement

SENIOR ENGINEER
William Gibson
619-507-6459

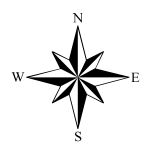
PROJECT MANAGER
Yazmin Lozano
619-533-4679

FOR QUESTIONS ABOUT THIS PROJECT
Call: 619-533-4207
Email: engineering@sandiego.gov



Legend

- Upper Roof
- Lower Roof



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APPENDIX F
SAMPLE OF PUBLIC NOTICE



CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
• Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
• This work is anticipated to be complete in your community by December 2016.

How your neighborhood may be impacted:

- Water service to some properties during construction will be provided by a two-inch highline pipe that will run along the curb. To report a highline leak call 619-515-3525.
• Temporary water service disruptions are planned. If planned disruptions impact your property, you will receive advance notice.
• Parking restrictions will exist because of the presence of construction equipment and materials.
• "No Parking" signs will be displayed 72 hours in advance of the work.
• Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:

Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:

Company Name, XXX-XXX-XXXX



CONSTRUCTION NOTICE

PROJECT TITLE

Work on your street will begin within one week to replace the existing water mains servicing your community.

The work will consist of:

- Saw-cutting and trench work on Ingulf Street from Morena Boulevard to Galveston Street to install new water mains, water laterals and fire hydrants.
• Streets where trenching takes place will be resurfaced and curb ramps will be upgraded to facilitate access for persons with disabilities where required.
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• Parking restrictions will exist because of the presence of construction equipment and materials.
• "No Parking" signs will be displayed 72 hours in advance of the work.
• Cars parked in violation of signs will be TOWED.

Hours and Days of Operation:

Monday through Friday X:XX AM to X:XX PM.

City of San Diego Contractor:

Company Name, XXX-XXX-XXXX

APPENDIX G

ADVANCED METERING INFRASTRUCTURE (AMI) DEVICE PROTECTION

Protecting AMI Devices in Meter Boxes and on Street Lights

The Public Utilities Department (PUD) has begun the installation of the Advanced Metering Infrastructure (AMI) technology as a new tool to enhance water meter reading accuracy and efficiency, customer service and billing, and to be used by individual accounts to better manage the efficient use of water. **All AMI devices shall be protected per Section 402-2, "Protection", of the 2021 Whitebook.**

AMI technology allows water meters to be read electronically rather than through direct visual inspection by PUD field staff. This will assist PUD staff and customers in managing unusual consumption patterns which could indicate leaks or meter tampering on a customer's property.

Three of the main components of an AMI system are the:

- A. Endpoints, see Photo 1:

Photo 1



B. AMI Antenna attached to Endpoint (antenna not always required), see Photo 2:



Network Devices, see Photo 3:

Photo 3



AMI endpoints transmit meter information to the AMI system and will soon be on the vast majority of meters in San Diego. These AMI devices provide interval consumption data to the PUD's Customer Support Division. If these devices are damaged or communication is interrupted, this Division will be alerted of the situation. The endpoints are installed in water meter boxes, coffins, and vaults adjacent to the meter. A separate flat round antenna may also be installed through the meter box lid. This antenna is connected to the endpoint via cable. The following proper installation shall be implemented when removing the lid to avoid damaging the antenna, cable, and/or endpoint. Photo 4 below demonstrates a diagram of the connection:

Photo 4



The AMI device ERT/Endpoint/Transmitter shall be positioned and installed as discussed in this Appendix. If the ERT/Endpoint/Transmitter is disturbed, it shall be re-installed and returned to its original installation with the end points pointed upwards as shown below in Photo 5.

The PUD's code compliance staff will issue citations and invoices to you for any damaged AMI devices that are not re-installed as discussed in the Contract Document

Photo 5 below shows a typical installation of an AMI endpoint on a water meter.

Photo 5

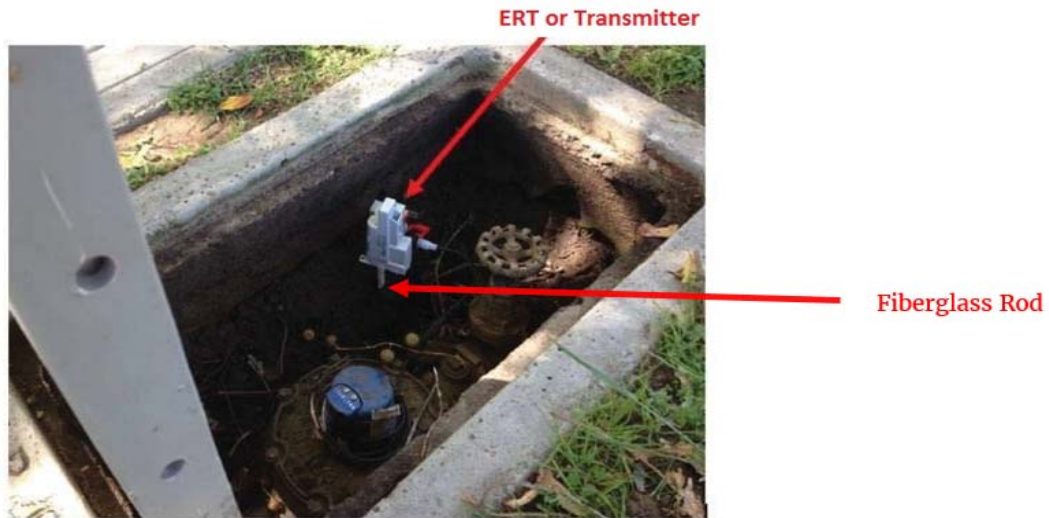


Photo 6 below is an example of disturbance that shall be avoided:

Photo 6



You are responsible when working in and around meter boxes. If you encounter these endpoints, use proper care and do not disconnect them from the registers on top of the water meter. If the lid has an antenna drilled through, do not change or tamper with the lid and inform the Resident Engineer immediately about the location of that lid. Refer to Photo 7 below:

Photo 7



Another component of the AMI system are the Network Devices. The Network Devices are strategically placed units (mainly on street light poles) that collect interval meter reading data from multiple meters for transmission to the Department Control Computer. **If you come across any of these devices on street lights that will be removed or replaced (refer to Photos 8 and 9 below), notify Elvira Santiesteban, Compliance & Metering Manager 619-380-3804 and Kevin Wilson, Senior Water Utility Supervisor 619-857-8257 immediately.**

Photo 8 shows an installed network device on a street light. On the back of each Network Device is a sticker with contact information. See Photo 9. **Call PUD Water Emergency Repairs at 619-515-3525 if your work will impact these street lights.** These are assets that belong to the City of San Diego and you shall be responsible for any costs of disruption of this network.

Photo 8



Network Device

Photo 9



If you encounter any bad installations, disconnected/broken/buried endpoints, or inadvertently damage any AMI devices or cables, notify the Resident Engineer immediately. The Resident Engineer will then immediately contact Elvira Santiesteban, Compliance & Metering Manager 619-380-3804 and Kevin Wilson, Senior Water Utility Supervisor 619-857-8257.

Rev. 9.11.2023

APPENDIX H

PROPOSED LIGHT FIXTURES CATALOG CUT SHEETS



T U R P I N & R A T T A N
ENGINEERING, INC.

CONSULTING ENGINEERS

4719 PALM AVENUE
LA MESA, CA 91941-5221

619 / 466 / 6224
FAX / 466 / 6233

PROPOSED LIGHT FIXTURE CATALOG CUT SHEETS

100% SUBMITTAL

SAN DIEGO AIR & SPACE MUSEUM ROOF REPLACEMENT 2001 PAN AMERICAN PLAZA SAN DIEGO, CA 92101

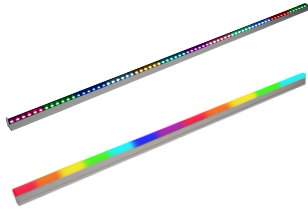
APRIL 2024

PROVIDING CLIENT SATISFACTION THROUGH INNOVATIVE ENGINEERING SOLUTIONS
COUPLED WITH TEAM WORK, INTEGRITY, QUALITY, AND VISION



TRAXON

Project: _____
 Type: _____



Allegro Media Tube® Lite RGBW Or Approved Equal

Allegro Media Tube® Lite is a slim, direct view luminaire designed to integrate into any wall, facade or media lighting application with tight installation requirements. Available with a Direct View or **Diffused View lens and 3 pixels per foot**. Allegro Media Tube Lite provides smooth effects to add life and motion to the installation. Featuring auto addressing and simple quick-lock connections, **Allegro Media Tube Lite is perfect for building façades**, media applications, and more.



Product Specifications

	Direct View		Diffused View	
	300mm / 12"	1200mm / 48"	300mm / 12"	1200mm / 48"
Pixels	3 pixels	12 pixels	3 pixels	12 pixels
Light Source	18 RGBW 4 in 1	72 RGBW 4 in 1	18 RGB + 18 White	72 RGB + 72 White
Color Range	16.7 Million additive RGB colors; White 6500K			
Beam Angle	90°		115° x 170°	
Luminous Flux	148 lm	521 lm	155 lm	696 lm
Efficacy	35 lm/W	31 lm/W	37 lm/W	41lm/W
Pixel Pitch	100mm / 3.94"			
LED Pitch	16.7mm / 0.66"			
Pixel Configuration	6 RGBW LEDs per pixel		6 RGB LEDs + 6 White LEDs per pixel	
Housing	Extruded Aluminum			
Cover Lens	Clear Glass		UV resistant polycarbonate	
Mounting	Fixed, non-adjustable mounting bracket (x2 per Tube)			
Dimensions (W x H)	24.5 x 31.2mm / 0.96" x 1.23" (mounting bracket included)		24.5 x 43mm / 0.96" x 1.69" (mounting bracket included)	
Dimensions (L)	300mm / 12"	1200mm / 48"	300mm / 12"	1200mm / 48"
Weight	0.45kg / 0.99lb	1.1kg / 2.43lb	0.45kg / 0.99lb	1.1kg / 2.43lb
Regulatory Listing & Safety Approval	cETLus, FCC, ANSI C136.31 - 3G			
Operating Temperature	-40°C to +50°C / -40°F to +122°F			
Storage Temperature	-40°C to +70°C / -40°F to +158°F			
Environment	Outdoor, IP66, IK09 (Diffused View), Suitable for Coastal Environment			
Humidity	10-90%, non-condensing			

Electrical Specifications

Operating Voltage	48V DC
Power Consumption	4.2W / 16.8W
Lumen Maintenance	L70B50 50,000 hours

System Specifications

Control	DMX512
Power Supply	LED Engine 48V Outdoor
Addressing Options	Auto-addressing per daisy-chain
Fixture Interconnection	See System Diagram

LED CHARACTERISTICS Because LEDs are semiconductor devices, their performances are subject to inherent variability commonly found in semiconductor industry. To improve consistency in performance across the same product, LED manufacturers "sort" LEDs into bins according to different preset parameters, such as forward driving voltage, illumination, etc. Whereas binning is a sorting function, it is not a correction process. Inherent variability in the manufacturing process results always in different binning distributions according to different production lots. Traxon uses automatically binned LEDs on its products, thereby minimizing output variations within the model range.

As with all electronic devices, LED output degrades over time – a term called lumen depreciation. This also explains why it is nearly impossible to expect photometric performances of two LED products with different service life spans to be the same. The rate of LED degrade is a complicate function of many factors such as operating efficiency, duration of continuous operation, and more significantly, environmental conditions (ambient temperature for example). If allowed working under optimal operating temperature range and with good ventilation, LED devices enjoy long service lives over conventional light sources. When using/installing LED devices, care should be taken to ensure that the devices will operate within the operating conditions specified in respective product literature.

Lumen measurement complies with LM-79-08 standard.
 Lumen maintenance is calculated based on LM-80 compliant measurement.



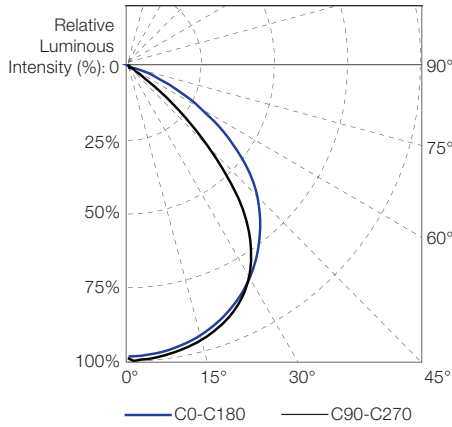
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Source Specifications

	300mm / 12"	1200mm / 48"
Source	18 RGBW 4 in 1	72 RGBW 4 in 1
Optics	90°	
Cover Lens	Clear Glass	

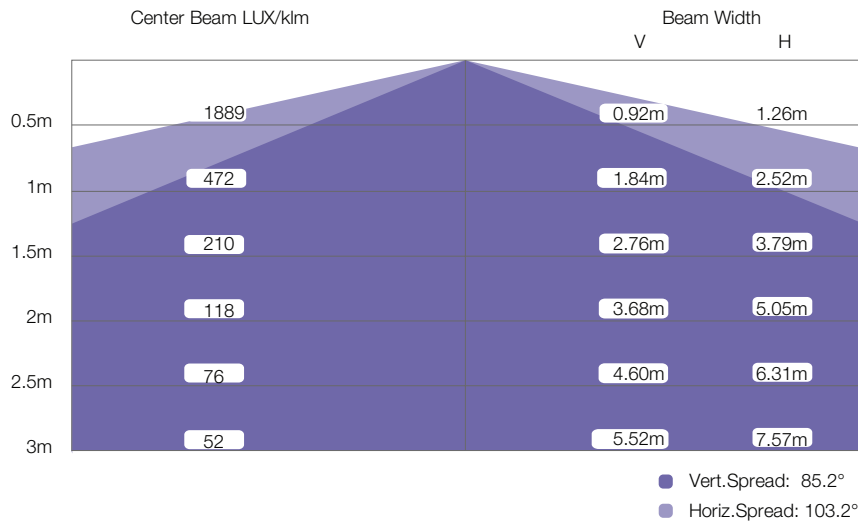
Candela Distribution (Direct View)



Light Output

Color	Luminous Flux (lm)	Efficacy (lm/W)
300 / 12"		
RGBW (full-on)	148.2	35.3
RGB	66.2	22.4
Red	21.2	11.6
Green	40.2	26.2
Blue	5.7	4.3
White (RGB off)	82.4	38.4
1200 / 48"		
RGBW (full-on)	520.5	31.0
RGB	236.2	20.0
Red	75.9	10.4
Green	145.5	23.7
Blue	21.0	4.0
White (RGB off)	288.2	33.5

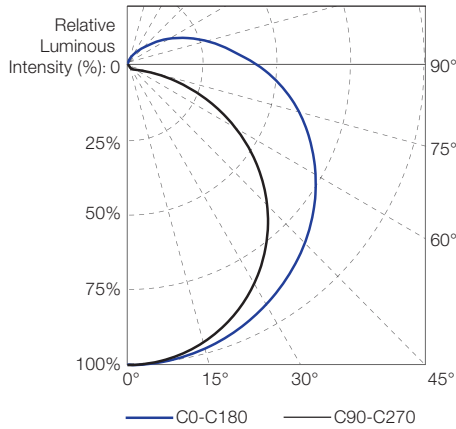
Illuminance at a Distance



Source Specifications

	300mm / 12"	1200mm / 48"
Source	18 RGB + 18 White	72 RGB + 72 White
Optics	115° x 170°	
Cover Lens	UV resistant polycarbonate	

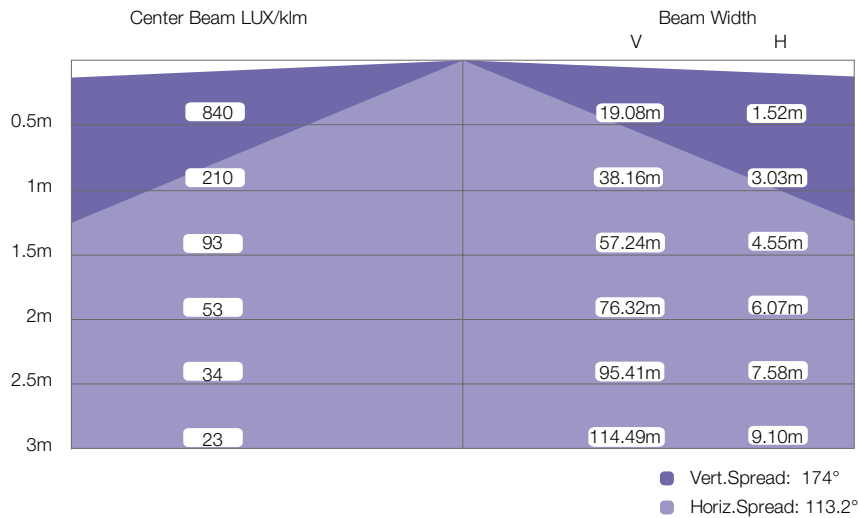
Candela Distribution (Diffused View)



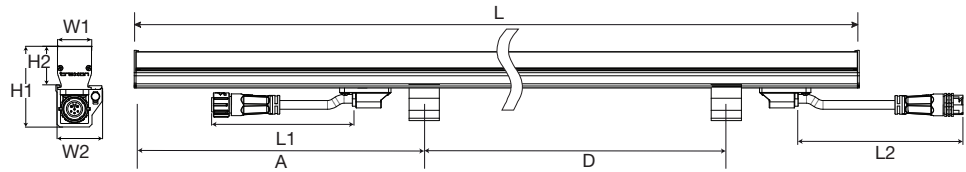
Light Output

Color	Luminous Flux (lm)	Efficacy (lm/W)
300 / 12"		
RGBW (full-on)	155.4	37.0
RGB	66.2	22.4
Red	17.8	9.7
Green	43.1	28.0
Blue	6.3	4.8
White (RGB off)	89.5	41.7
1200 / 48"		
RGBW (full-on)	696.1	41.4
RGB	296.5	25.1
Red	83.0	11.4
Green	193.3	31.4
Blue	28.6	5.4
White (RGB off)	404.5	47.1

Illuminance at a Distance

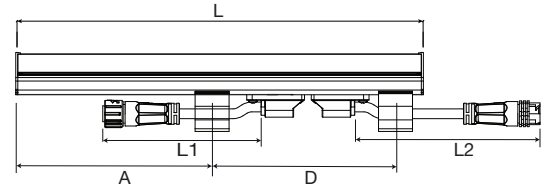


Fixture Dimensions (Direct View)

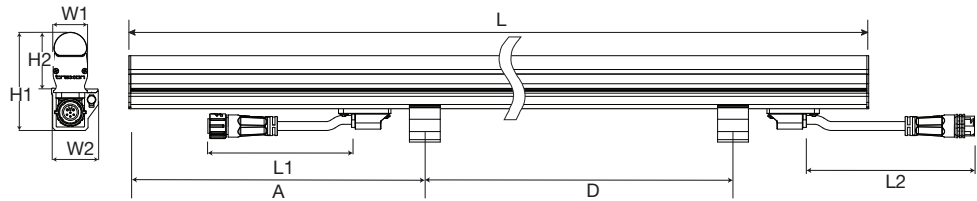


NOTE: Please see CAD files for additional dimensional data.

	W1	W2	H1	H2	A	D	L	L1	L2
1200mm	24.5mm	33.3mm	58.2mm	31.2mm	240mm	850mm	1200mm	116.5mm	136.3mm
48"	0.96"	1.31"	2.29"	1.23"	9.45"	33.46"	47.24"	4.59"	5.37"
300mm	24.5mm	33.3mm	58.2mm	31.2mm	145mm	135mm	300mm	116.5mm	136.3mm
12"	0.96"	1.31"	2.29"	1.23"	5.71"	5.31"	11.81"	4.59"	5.37"

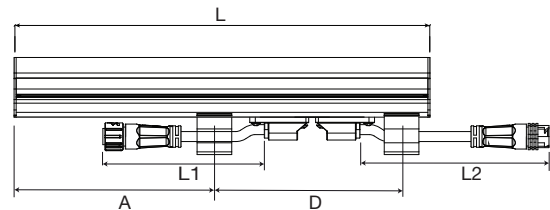


Fixture Dimensions (Diffused View)



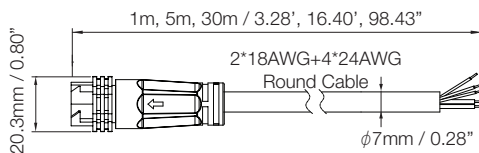
NOTE: Please see CAD files for additional dimensional data.

	W1	W2	H1	H2	A	D	L	L1	L2
1200mm	24.5mm	33.3mm	70mm	43mm	240mm	850mm	1200mm	116.5mm	136.3mm
48"	0.96"	1.31"	2.76"	1.69"	9.45"	33.46"	47.24"	4.59"	5.37"
300mm	24.5mm	33.3mm	70mm	43mm	145mm	135mm	300mm	116.5mm	136.3mm
12"	0.96"	1.31"	2.76"	1.69"	5.71"	5.31"	11.81"	4.59"	5.37"

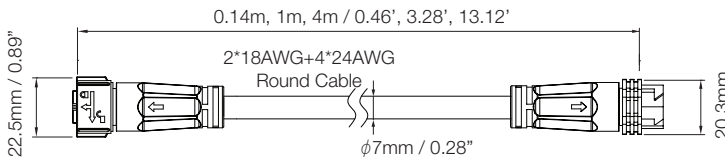


Connection Accessories

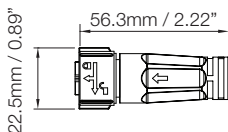
Starter Cable



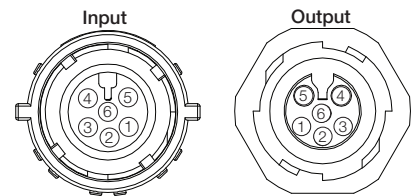
Interconnection Cable



End Cap with 120 Ohm Terminator

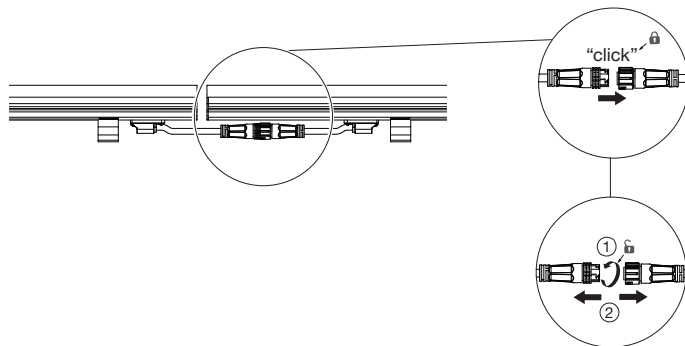


Connector Pin Assignment



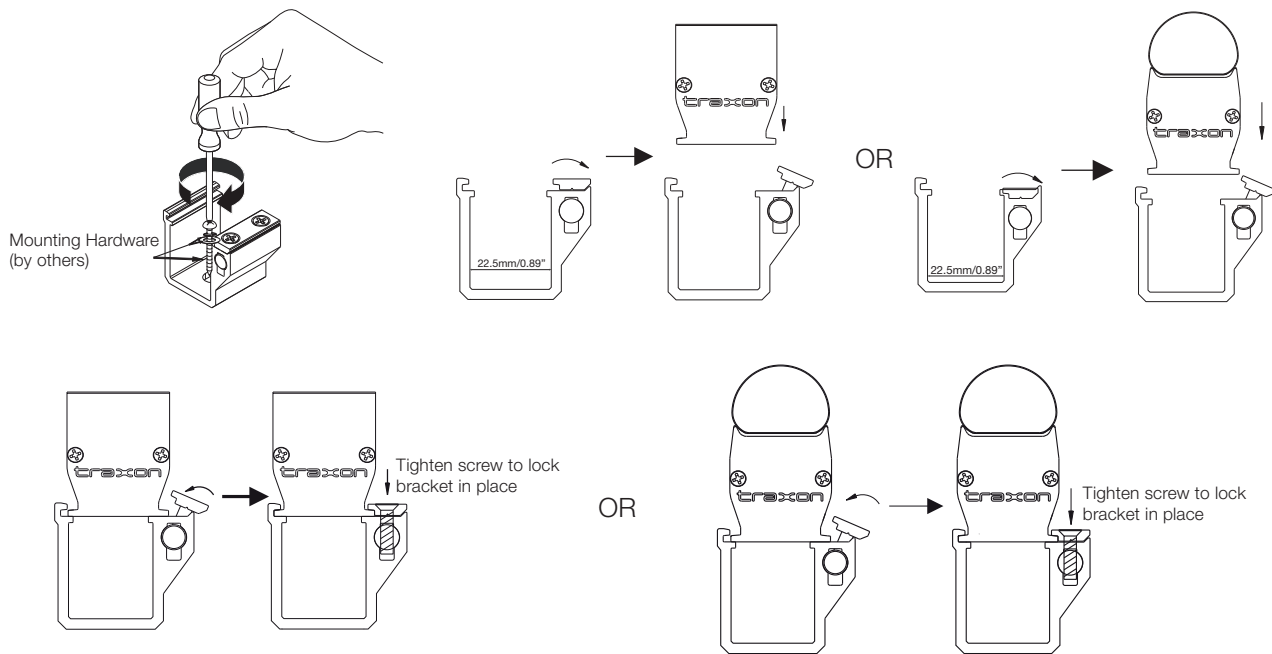
Wire#	Description	Color
1	DMX+	Green
2	Ground	White
3	DMX-	Blue
4	DC48V-	Black
5	DC48V+	Red
6	Address	Brown

Cable Connection



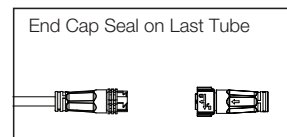
If you do not hear "click", rotate the spring loaded connector manually to ensure that the connectors are properly mated.

Bracket Mounting

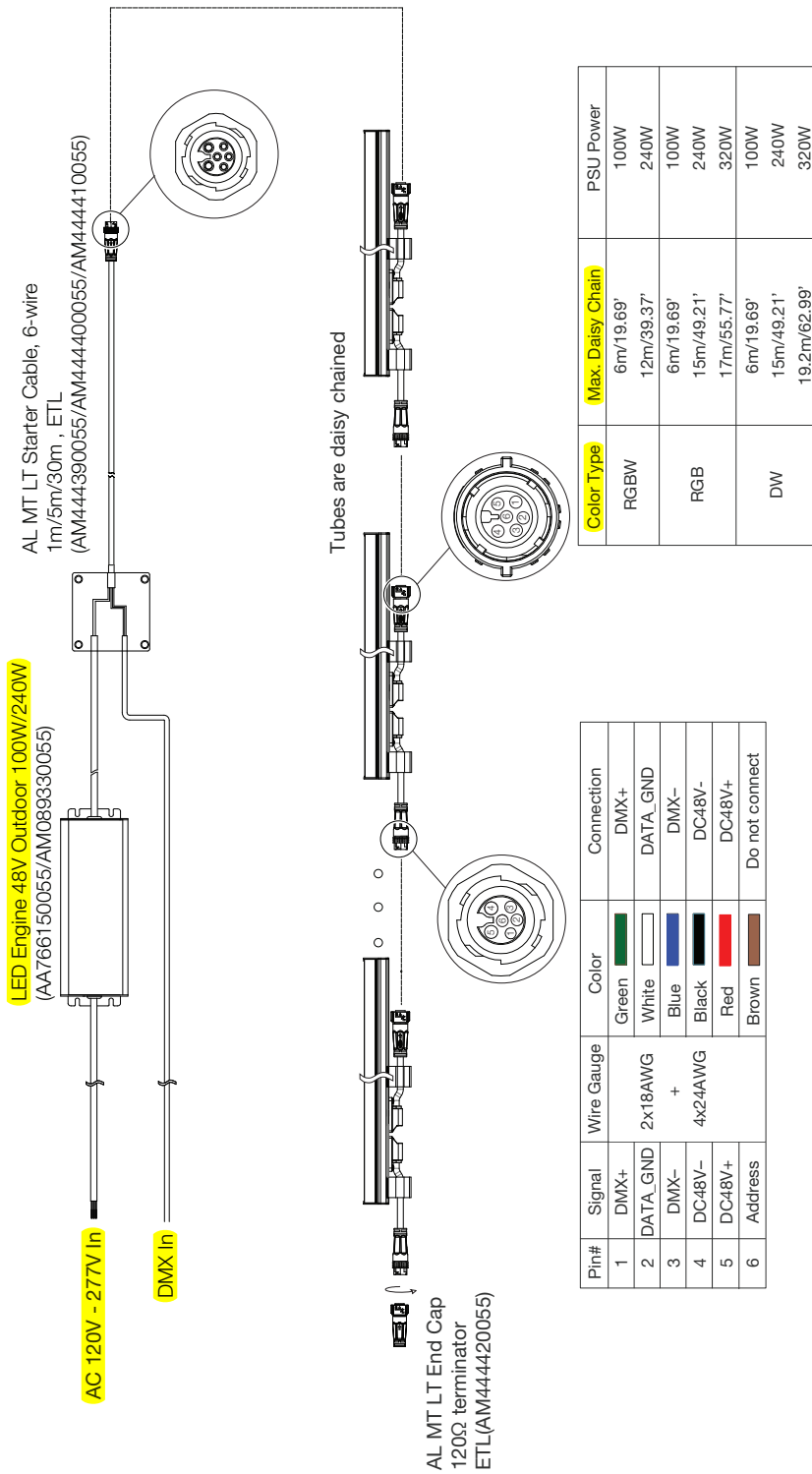


Tube-to-Tube Clearance

To maintain consistent LED pitch and to allow for thermal expansion, a minimum of 4mm / 0.16" is required between luminaire's.



System Diagram



Wiring diagram shows only typical connections. Max. number of fixtures is based on minimal interconnection lengths. Actual number of fixtures is dependent on cable interconnections. Number of fixtures will reduce if longer cable lengths are used. Consult with your regional sales office to confirm maximums.

Model Number

TU	AL	N	N	NN	N	0	0
	Length	Color	Pixels	Optics			
	1: 300mm/12"	1: RGB+W (W=6500K), Diffused	03: 3 Pixels with 300mm/11.8"	6: Flat clear cover			
	B: 1200mm/48"	4: RGBW (6500K), Direct View	12: 12 Pixels with 1200mm/47.2"	7: Round diffused cover			
			01: 1 Pixel per tube				

Fixtures

Model No.	Description	Item Code
TU.AL.1103700	AL MT LT RGBW 300 3PXL DF R ETL	AM444180055
TU.AL.B112700	AL MT LT RGBW 1200 12PXL DF R ETL	AM444150055
TU.AL.1403600	AL MT LT RGBW 300 3PXL CR ETL	AM444300055
TU.AL.B412600	AL MT LT RGBW 1200 12PXL CR ETL	AM444270055

TX Connect

Model No.	Description	Item Code
TU.AC.1210100	AL MT LT STARTER CABLE, 6-WIRE, 1M, ETL	AM444390055
TU.AC.1210200	AL MT LT STARTER CABLE, 6-WIRE, 5M, ETL	AM444400055
TU.AC.1210300	AL MT LT STARTER CABLE, 6-WIRE, 30M, ETL	AM444410055
TU.AC.1210400	AL MT LT END CAP, 120Ω TERMINATOR, ETL	AM444420055
TU.AC.1210700	AL MT LT INTER CABLE, 6-WIRE, 0.14M, ETL	AM444450055
TU.AC.1210500	AL MT LT INTER CABLE, 6-WIRE, 1M, ETL	AM444430055
TU.AC.1210600	AL MT LT INTER CABLE, 6-WIRE, 4M, ETL	AM444440055
TU.AC.0602000	WAGO TERMINAL BLOCK SET (7A)	AB469230035
TU.AC.0602100	7A SB FUSE (100PCS)	AB469240055

TX Control

Model No.	Description	Item Code
N/A	LED ENGINE 100W 48V OUTDOOR	AM338910055
N/A	LED ENGINE 240W 48V OUTDOOR	AM089330055
N/A	LED ENGINE 320W 48V OUTDOOR	AM088070055
160185	VIDEO MICRO CONVERTER (DMX/E:PIX)	AA438940235
160194	VIDEO MICRO CONVERTER GARAGE (OPTIONAL)	AA623920031
EN.BP.0000100	BUTLER PRO DMX/RDM	AA628600035
EN.BX.0000001	BUTLER XT2	AA557270131
160174	BUTLER XT2 GARAGE (OPTIONAL)	AA556660031
EN.BU.0000001	BUTLER S2	AB436200031
AC.BG.0000001	BUTLER S2 GARAGE (OPTIONAL)	AA611800031
N/A	LCE3FX E:CUE	AM368100135
N/A	LCE3 E:CUE	AM368100035
N/A	LIGHTING CONTROL ENGINE 2 MX WITH ETL	AM349340031
N/A	E:CUE SYMPL DMX NODE	AB444180035

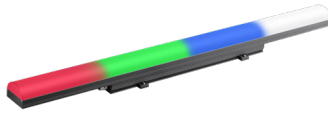


Our Brands

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OSRAM

Project: _____
Type: _____



**ProPoint Kontour Round Narrow RGBW
Or Approved Equal**

The Traxon ProPoint Kontour is an AC line powered exterior luminaire used to distinguish facades, walls, and architectural borders with a concentrated, even radiance. ProPoint Kontour's compact, lowprofile design is available in four lengths, two widths and is combined with a clip mounting system for efficient installation.



Product Specifications

	300mm / 12"	600mm / 24"	1200mm / 48"	2400mm / 96"
Model	Kontour Round Narrow Or Approved Equal			
Light Source	RGBW (White CCT: 4000K)			
LED Quantity	RGBW / 4-in-1 LED cluster x 30pcs	RGBW / 4-in-1 LED cluster x 60pcs	RGBW /4-in-1 LED cluster x 120pcs	RGBW / 4-in-1 LED cluster x 240pcs
Pixel Options	1PXL	1PXL or 2PXL	1PXL, 2PXL or 4PXL	1PXL, 2PXL, 4PXL or 8PXL
Beam Angle	100° x 125°			
Luminous Flux	123 lm	247 lm	479 lm	986 lm
Efficacy	28 lm/W			
Lumen Maintenance	L70 @25°C 81,000hrs			
Cover Lens	Round diffused UV stable acrylic			
Housing	Extruded aluminum			
Housing Finish Options	Gray (RAL7015), Black (RAL9005), White (RAL9003)			
Mounting	Low Profile Mounting Brackets (x2 per length)			
Dimensions (L)	300mm / 11.8"	600mm / 23.6"	1200mm / 47.2"	2400mm / 94.5"
(W x H)	47.4mm x 69.5mm / 1.9" x 2.7"			
Weight	0.96 kg / 2.12 lbs.	1.34 kg / 2.95 lbs.	2.32 kg / 5.11 lbs.	4.06 kg / 8.95 lbs.
EPA (sq.ft)	Front	0.037		
	Side	0.298	0.455	0.913
	Front 45°	0.2107	0.3217	0.6455
Regulatory Listing & Safety Approval	cETLus,FCC, RoHs, ASTM B117-16, ANSI 3G, IK08			
Operating Temperature	-30°C to +55°C / -22°F to +131°F			
Storage Temperature	-40°C to +80°C / -40°F to +176°F			
Environment	Outdoor (IP66), suitable for coastal environments			
Humidity	85%, non-condensing			

Electrical Specifications

Input Voltage	120-277V AC 50/60Hz			
Power Consumption	4W	8W	16W	32W
Power Factor	≥ 0.9			

System Specifications

Control	DMX 512
Power Supply	Integral
Addressing Options	Auto-Addressed with Data Injector
Pixel Control	Standard luminaire controlled by 300mm / 12". Factory configurable pixel control on request, check with your local sales office for more information.

LED CHARACTERISTICS Because LEDs are semiconductor devices, their performances are subject to inherent variability commonly found in semiconductor industry. To improve consistency in performance across the same product, LED manufacturers "sort" LEDs into bins according to different preset parameters, such as forward driving voltage, illumination, etc. Whereas binning is a sorting function, it is not a correction process. Inherent variability in the manufacturing process results always in different binning distributions according to different production lots. Traxon uses automatically binned LEDs on its products, thereby minimizing output variations within the model range.

As with all electronic devices, LED output degrades over time – a term called lumen depreciation. This also explains why it is nearly impossible to expect photometric performances of two LED products with different service life spans to be the same. The rate of LED degrade is a complicate function of many factors such as operating efficiency, duration of continuous operation, and more significantly, environmental conditions (ambient temperature for example). If allowed working under optimal operating temperature range and with good ventilation, LED devices enjoy long service lives over conventional light sources. When using/installing LED devices, care should be taken to ensure that the devices will operate within the operating conditions specified in respective product literature.

Lumen measurement complies with LM-79-08 standard. Lumen maintenance is calculated based on LM-80 compliant measurement.

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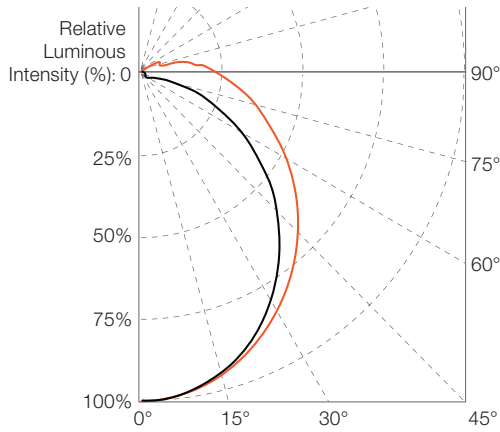
ProPoint Kontour Round Narrow RGBW

Photometrics

Source Specifications

Optics 100° x 125°

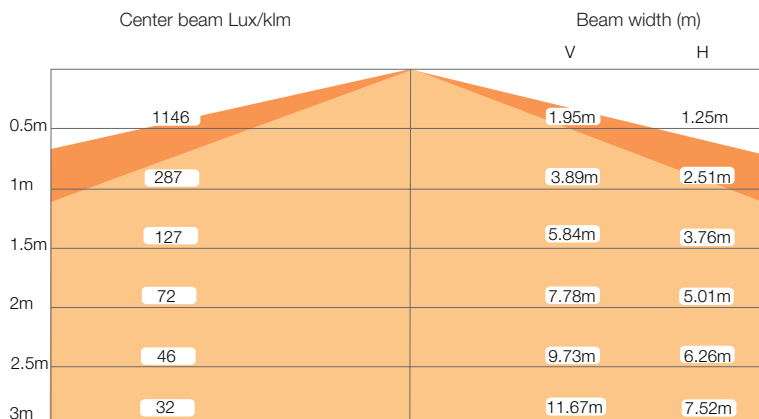
Candela Distribution



Light Output

Color	Luminous Flux (lm)	Efficacy (lm/W)
300mm / 12"		
RGBW (full-on)	123.4	28.8
RGB	83.6	24.2
Red	18.7	11.2
Green	53.9	31.5
Blue	10.7	6.3
White	39.5	22.4
600mm / 24"		
RGBW (full-on)	247.3	28.1
RGB	167.5	24.2
Red	37.7	10.8
Green	108.0	32.0
Blue	21.4	6.3
White	79.1	23.2
1200mm / 48"		
RGBW (full-on)	479.9	28.0
RGB	320.4	23.2
Red	72.5	10.7
Green	210.6	31.1
Blue	39.8	5.9
White	159.5	23.5
2400mm / 96"		
RGBW (full-on)	986.5	28.7
RGB	665.1	23.7
Red	147.3	10.8
Green	430.4	31.6
Blue	85.9	6.0
White	315.6	23.3

Illuminance at a Distance



● Vert. Spread: 125.6°
● Horiz. Spread: 102.8°

For fc (foot candle) divide by 10.7

For feet multiply by 3.28

IES and LDT files are available for download from the Traxon website.

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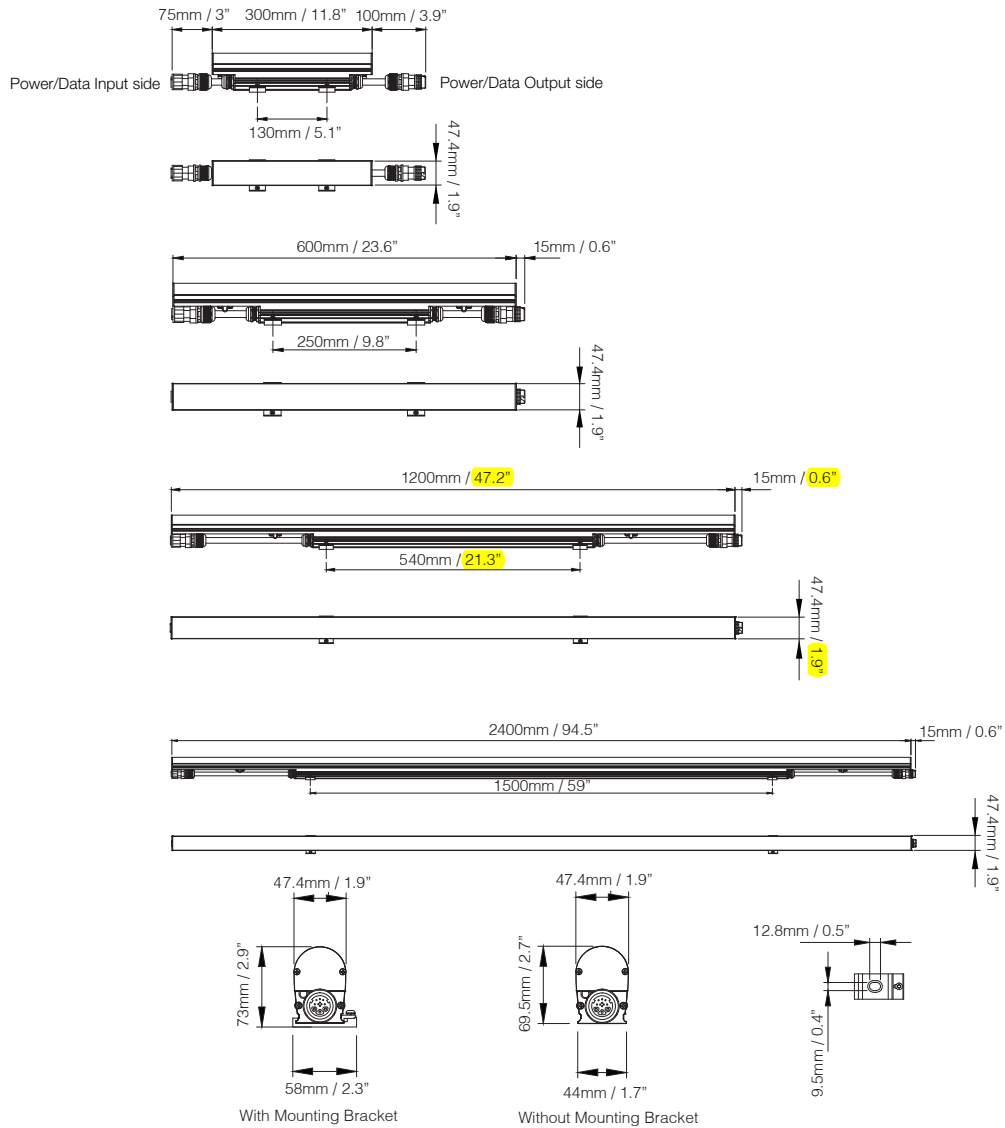
Product Specification

DS0144US V1.0 04/21

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ProPoint Kontour Round Narrow RGBW

Dimensions



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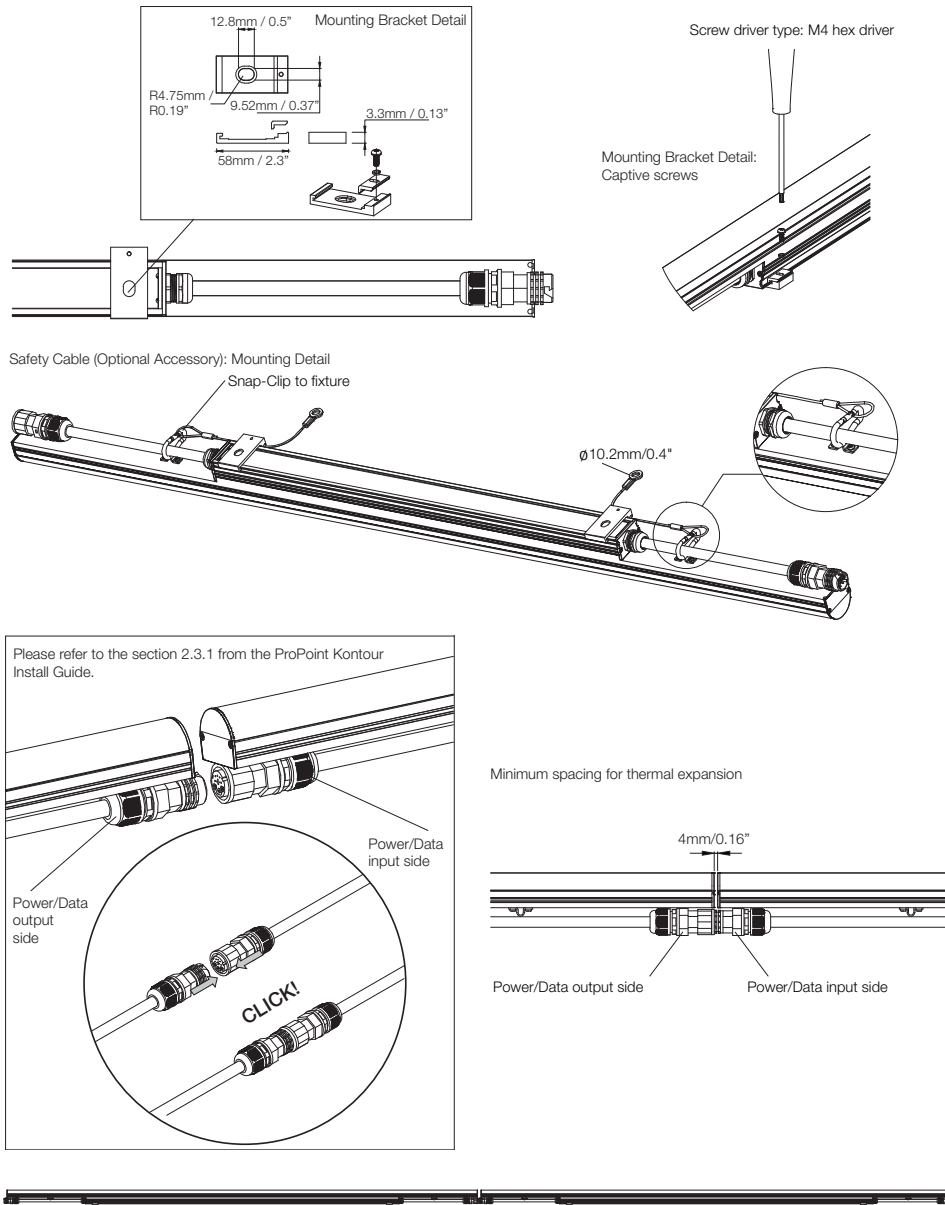
Product Specification

DS0144US V1.0 04/21

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ProPoint Kontour Round Narrow RGBW

Mounting



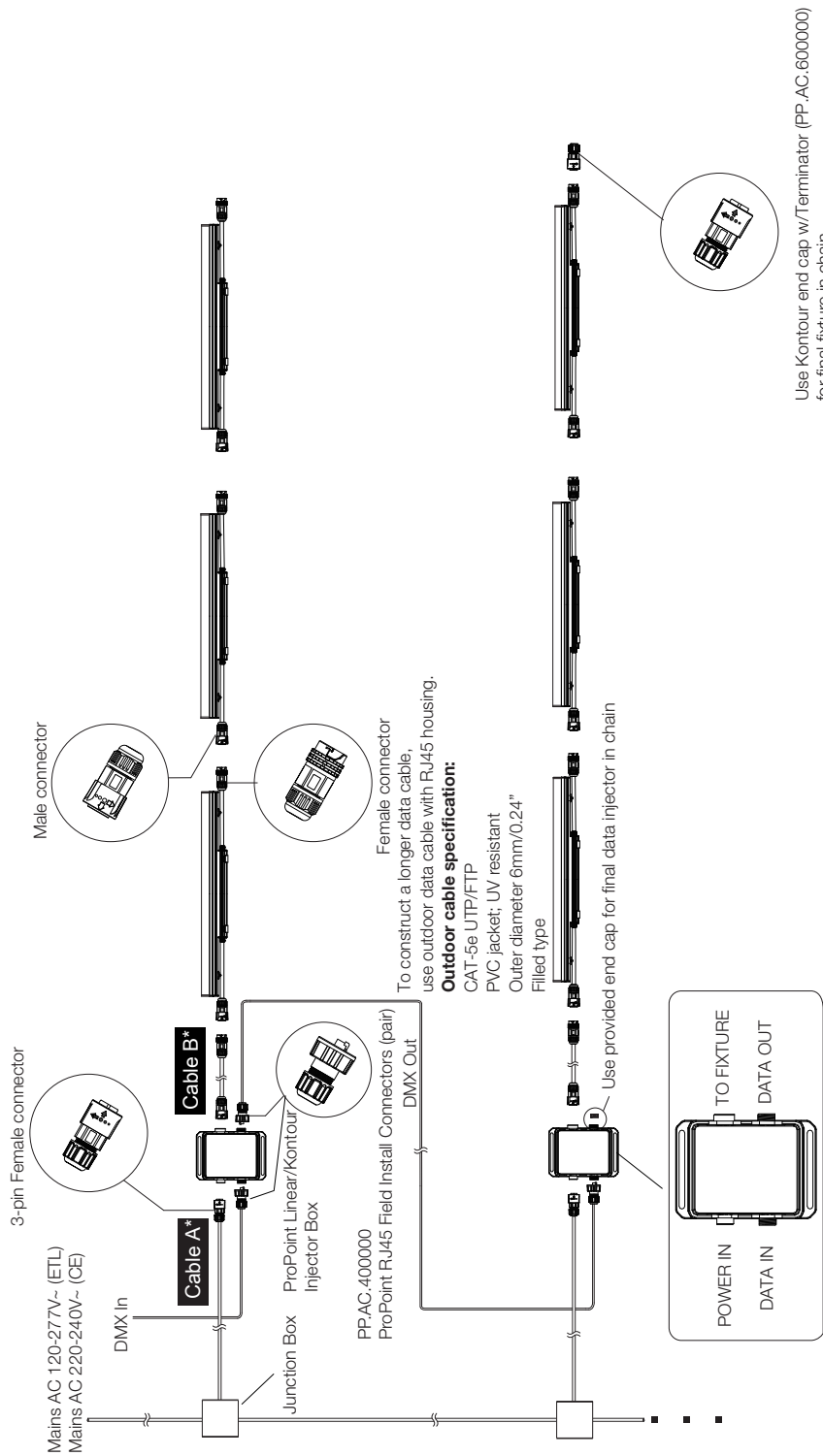
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Product Specification

DS0144US V1.0 04/21

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1. All ordering information of accessories can be referred to next page.
 2. All interconnection information can be referred to next page.
- * Cable A; Cable B: Please refer to System Diagram Accessories table for options.

ProPoint Kontour Round Narrow RGBW

System Diagram

Wiring Information Details

ProPoint Kontour Narrow -ETL **Or Approved Equal**

120V

Model	Power Consumption (Typ.)	Input Voltage	Max Connected Chain
300mm / 12"	4W	120V	432
600mm / 24"	8W	120V	216
1200mm / 48"	16W	120V	108
2400mm / 96"	32W	120V	54

220V-240V

Model	Power Consumption (Typ.)	Input Voltage	Max Connected Chain
300mm / 12"	4W	220-240V	512
600mm / 24"	8W	220-240V	400
1200mm / 48"	16W	220-240V	200
2400mm / 96"	32W	220-240V	100

277V

Model	Power Consumption (Typ.)	Input Voltage	Max Connected Chain
300mm / 12"	4W	277V	512
600mm / 24"	8W	277V	500
1200mm / 48"	16W	277V	250
2400mm / 96"	32W	277V	125

Accessories (ETL / CE)

Model No.	Description	Or Approved Equal	Item Code
PP.AC.100001	ProPoint Linear/Kontour Injector Box		AM374890055
PP.AC.100002	ProPoint Linear/Kontour Injector Box BL		AM374900055
PP.AC.100003	ProPoint Linear/Kontour Injector Box WT		AM374910055
PP.AC.600000	PP LIN/KON End Cap W / TERM.		AM380550055
PP.AC.400000	ProPoint RJ45 Field Install Connectors (pair)		AM380560055

Accessories (ETL)

Cable Type	Model No.	Description	Or Approved Equal	Item Code
Cable A*	PP.A1.303000	3M PP Linear Power Input Cable ETL		AM374840155
Cable B*	KO.KA.610000	10M Kontour PWR/DATA INT CBL ETL		AM357520055
Cable B*	KO.KA.601000	1M Kontour PWR/DATA INT CBL ETL		AM357490055
Cable B*	KO.KA.602000	2M Kontour PWR/DATA INT CBL ETL		AM357500055
Cable B*	KO.KA.603000	3M Kontour PWR/DATA INT CBL ETL		AM357510055

* All cables come pre-wired with male / female connectors.

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Product Specification

DS0144US V1.0 04/21

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ProPoint Kontour Round Narrow RGBW

Ordering

Model Number **Or Approved Equal**

KXX	.	2	.	9	4	4	4	2	.	X	.	XX
Kontour Length	Width	Control	Color	CCT	Approbation	Lens	Finish	Pixel Config				
K1L: 12"	2: Narrow	9: DMX	4: RGBW	4: 4000K	4: cETLus	2: Diffused Round Lens	1: Gray	01: 1PXL				
K2L: 24"							2: Black	02: 2PXL				
K4L: 48"							3: White	04: 4PXL				
K8L: 96"								08: 8PXL				

*Abbreviations in Description

WD: Wide NW: Narrow R: Round BL: Black WT: White

Fixtures

Model No.	Description	Item Code
K1L.2.944421.01	ProPoint Kontour R 12" NW RGBW 1PXL ETL	AM405380055
K2L.2.944421.01	ProPoint Kontour R 24" NW RGBW 1PXL ETL	AM405400055
K2L.2.944421.02	ProPoint Kontour R 24" NW RGBW 2PXL ETL	AM406220055
K4L.2.944421.01	ProPoint Kontour R 48" NW RGBW 1PXL ETL	AM405420055
K4L.2.944421.04	ProPoint Kontour R 48" NW RGBW 4PXL ETL	AM406240055
K8L.2.944421.01	ProPoint Kontour R 96" NW RGBW 1PXL ETL	AM405440055
K8L.2.944421.08	ProPoint Kontour R 96" NW RGBW 8PXL ETL	AM406260055
K1L.2.944422.01	ProPoint Kontour R 12" NW RGBW 1PXL BL ETL	AM405460055
K2L.2.944422.01	ProPoint Kontour R 24" NW RGBW 1PXL BL ETL	AM405480055
K2L.2.944422.02	ProPoint Kontour R 24" NW RGBW 2PXL BL ETL	AM406280055
K4L.2.944422.01	ProPoint Kontour R 48" NW RGBW 1PXL BL ETL	AM405500055
K4L.2.944422.04	ProPoint Kontour R 48" NW RGBW 4PXL BL ETL	AM406300055
K8L.2.944422.01	ProPoint Kontour R 96" NW RGBW 1PXL BL ETL	AM405520055
K8L.2.944422.08	ProPoint Kontour R 96" NW RGBW 8PXL BL ETL	AM406320055
K1L.2.944423.01	ProPoint Kontour R 12" NW RGBW 1PXL WT ETL	AM405540055
K2L.2.944423.01	ProPoint Kontour R 24" NW RGBW 1PXL WT ETL	AM405560055
K2L.2.944423.02	ProPoint Kontour R 24" NW RGBW 2PXL WT ETL	AM406340055
K4L.2.944423.01	ProPoint Kontour R 48" NW RGBW 1PXL WT ETL	AM405580055
K4L.2.944423.04	ProPoint Kontour R 48" NW RGBW 4PXL WT ETL	AM406360055
K8L.2.944423.01	ProPoint Kontour R 96" NW RGBW 1PXL WT ETL	AM405600055
K8L.2.944423.08	ProPoint Kontour R 96" NW RGBW 8PXL WT ETL	AM406380055

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Product Specification

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ProPoint Kontour Round Narrow RGBW

Ordering

Accessories (ETL / CE)

Model No.	Description	Or Approved Equal	Item Code
PP.AC.100001	ProPoint Linear/Kontour Injector Box		AM374890055
PP.AC.100002	ProPoint Linear/Kontour Injector Box BL		AM374900055
PP.AC.100003	ProPoint Linear/Kontour Injector Box WT		AM374910055
PP.AC.600000	PP LIN/KON End Cap W / TERM.		AM380550055
PP.AC.400000	ProPoint RJ45 Field Install Connectors (pair)		AM380560055

Accessories (ETL)

Model No.	Description	Or Approved Equal	Item Code
PP.A1.303000	3M PP Linear Power Input Cable ETL		AM374840155
KO.KA.610000	10M Kontour PWR/DATA INT CBL ETL		AM357520055
KO.KA.601000	1M Kontour PWR/DATA INT CBL ETL		AM357490055
KO.KA.602000	2M Kontour PWR/DATA INT CBL ETL		AM357500055
KO.KA.603000	3M Kontour PWR/DATA INT CBL ETL		AM357510055

Accessories (Optional)

Model No.	Description	Or Approved Equal	Item Code
KO.AA.900010	Kontour Safety Cable 0.25M (10")		AM403000055

Our Brands

traxon e:cue

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Product Specification

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Our Brands

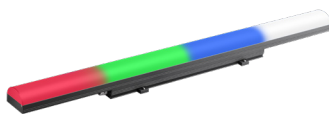
traxon e:cue

OSRAM

Project: _____

Type: _____

**ProPoint Kontour Round Narrow RGBW
Or Approved Equal**



The Traxon ProPoint Kontour is an AC line powered exterior luminaire used to distinguish facades, walls, and architectural borders with a concentrated, even radiance. ProPoint Kontour's compact, lowprofile design is available in four lengths, two widths and is combined with a clip mounting system for efficient installation.



Product Specifications

	300mm / 12"	600mm / 24"	1200mm / 48"	2400mm / 96"
Model	Kontour Round Narrow Or Approved Equal			
Light Source	RGBW (White CCT: 4000K)			
LED Quantity	RGBW / 4-in-1 LED cluster x 30pcs	RGBW / 4-in-1 LED cluster x 60pcs	RGBW /4-in-1 LED cluster x 120pcs	RGBW / 4-in-1 LED cluster x 240pcs
Pixel Options	1PXL	1PXL or 2PXL	1PXL, 2PXL or 4PXL	1PXL, 2PXL, 4PXL or 8PXL
Beam Angle	100° x 125°			
Luminous Flux	123 lm	247 lm	479 lm	986 lm
Efficacy	28 lm/W			
Lumen Maintenance	L70 @25°C 81,000hrs			
Cover Lens	Round diffused UV stable acrylic			
Housing	Extruded aluminum			
Housing Finish Options	Gray (RAL7015), Black (RAL9005), White (RAL9003)			
Mounting	Low Profile Mounting Brackets (x2 per length)			
Dimensions (L)	300mm / 11.8"	600mm / 23.6"	1200mm / 47.2"	2400mm / 94.5"
(W x H)	47.4mm x 69.5mm / 1.9" x 2.7"			
Weight	0.96 kg / 2.12 lbs.	1.34 kg / 2.95 lbs.	2.32 kg / 5.11 lbs.	4.06 kg / 8.95 lbs.
EPA (sq.ft)	Front	0.037		
	Side	0.298	0.455	0.913
	Front 45°	0.2107	0.3217	0.6455
		1.2917		
Regulatory Listing & Safety Approval	cETLus,FCC, RoHs, ASTM B117-16, ANSI 3G, IK08			
Operating Temperature	-30°C to +55°C / -22°F to +131°F			
Storage Temperature	-40°C to +80°C / -40°F to +176°F			
Environment	Outdoor (IP66), suitable for coastal environments			
Humidity	85%, non-condensing			

Electrical Specifications

Input Voltage	120-277V AC 50/60Hz			
Power Consumption	4W	8W	16W	32W
Power Factor	≥ 0.9			

System Specifications

Control	DMX 512
Power Supply	Integral
Addressing Options	Auto-Addressed with Data Injector
Pixel Control	Standard luminaire controlled by 300mm / 12". Factory configurable pixel control on request, check with your local sales office for more information.

LED CHARACTERISTICS Because LEDs are semiconductor devices, their performances are subject to inherent variability commonly found in semiconductor industry. To improve consistency in performance across the same product, LED manufacturers "sort" LEDs into bins according to different preset parameters, such as forward driving voltage, illumination, etc. Whereas binning is a sorting function, it is not a correction process. Inherent variability in the manufacturing process results always in different binning distributions according to different production lots. Traxon uses automatically binned LEDs on its products, thereby minimizing output variations within the model range.

As with all electronic devices, LED output degrades over time – a term called lumen depreciation. This also explains why it is nearly impossible to expect photometric performances of two LED products with different service life spans to be the same. The rate of LED degrade is a complicate function of many factors such as operating efficiency, duration of continuous operation, and more significantly, environmental conditions (ambient temperature for example). If allowed working under optimal operating temperature range and with good ventilation, LED devices enjoy long service lives over conventional light sources. When using/installing LED devices, care should be taken to ensure that the devices will operate within the operating conditions specified in respective product literature.

Lumen measurement complies with LM-79-08 standard. Lumen maintenance is calculated based on LM-80 compliant measurement.

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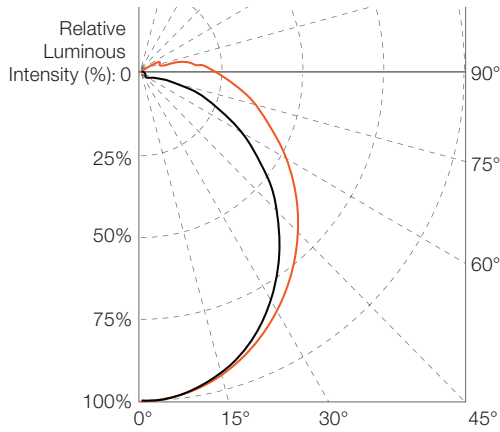
ProPoint Kontour Round Narrow RGBW

Photometrics

Source Specifications

Optics 100° x 125°

Candela Distribution



Light Output

Color	Luminous Flux (lm)	Efficacy (lm/W)
300mm / 12"		
RGBW (full-on)	123.4	28.8
RGB	83.6	24.2
Red	18.7	11.2
Green	53.9	31.5
Blue	10.7	6.3
White	39.5	22.4
600mm / 24"		
RGBW (full-on)	247.3	28.1
RGB	167.5	24.2
Red	37.7	10.8
Green	108.0	32.0
Blue	21.4	6.3
White	79.1	23.2
1200mm / 48"		
RGBW (full-on)	479.9	28.0
RGB	320.4	23.2
Red	72.5	10.7
Green	210.6	31.1
Blue	39.8	5.9
White	159.5	23.5
2400mm / 96"		
RGBW (full-on)	986.5	28.7
RGB	665.1	23.7
Red	147.3	10.8
Green	430.4	31.6
Blue	85.9	6.0
White	315.6	23.3

Illuminance at a Distance

Center beam Lux/klm	Beam width (m)	
	V	H
1146	1.95m	1.25m
287	3.89m	2.51m
127	5.84m	3.76m
72	7.78m	5.01m
46	9.73m	6.26m
32	11.67m	7.52m

● Vert. Spread: 125.6°
 ● Horiz. Spread: 102.8°

For fc (foot candle) divide by 10.7

For feet multiply by 3.28

IES and LDT files are available for download from the Traxon website.

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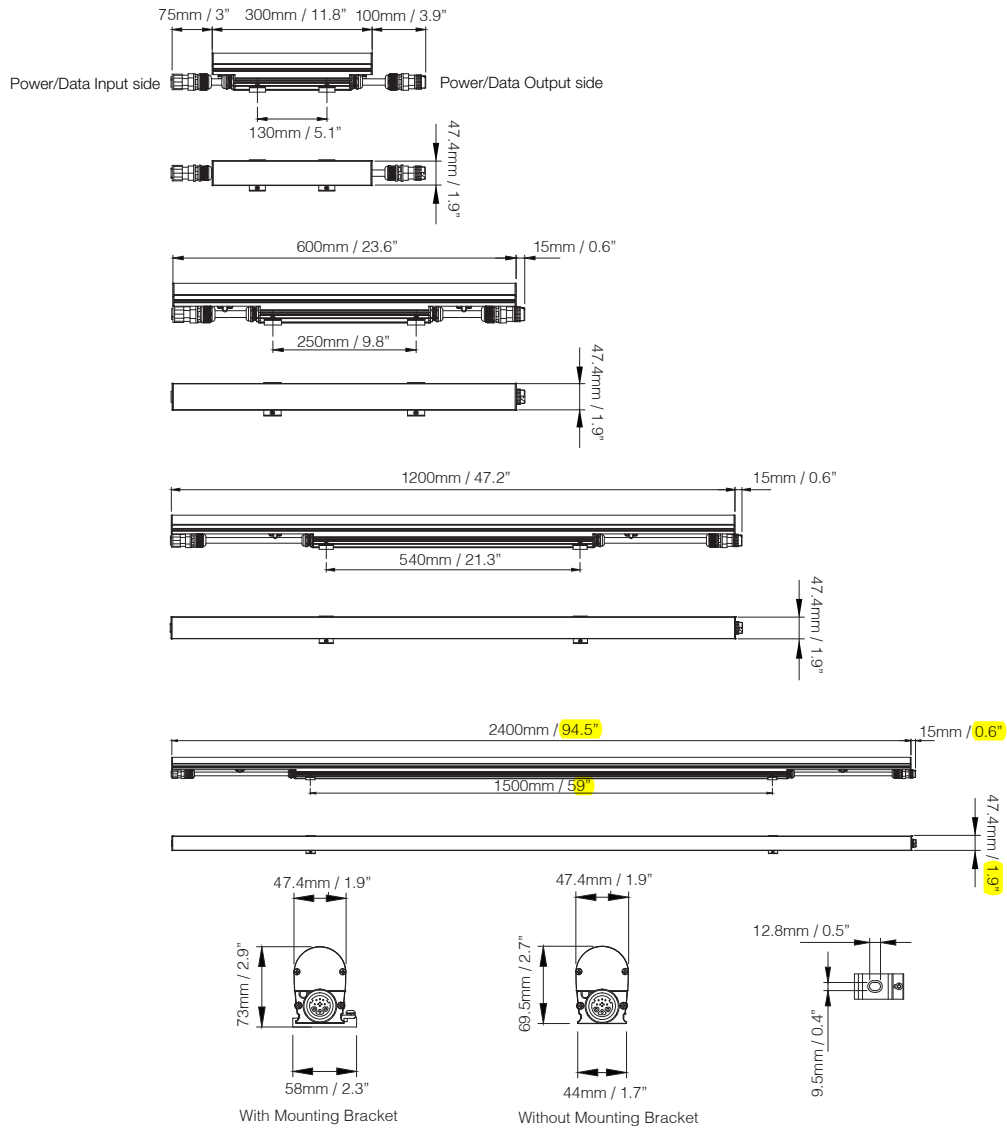
Product Specification

DS0144US V1.0 04/21

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ProPoint Kontour Round Narrow RGBW

Dimensions



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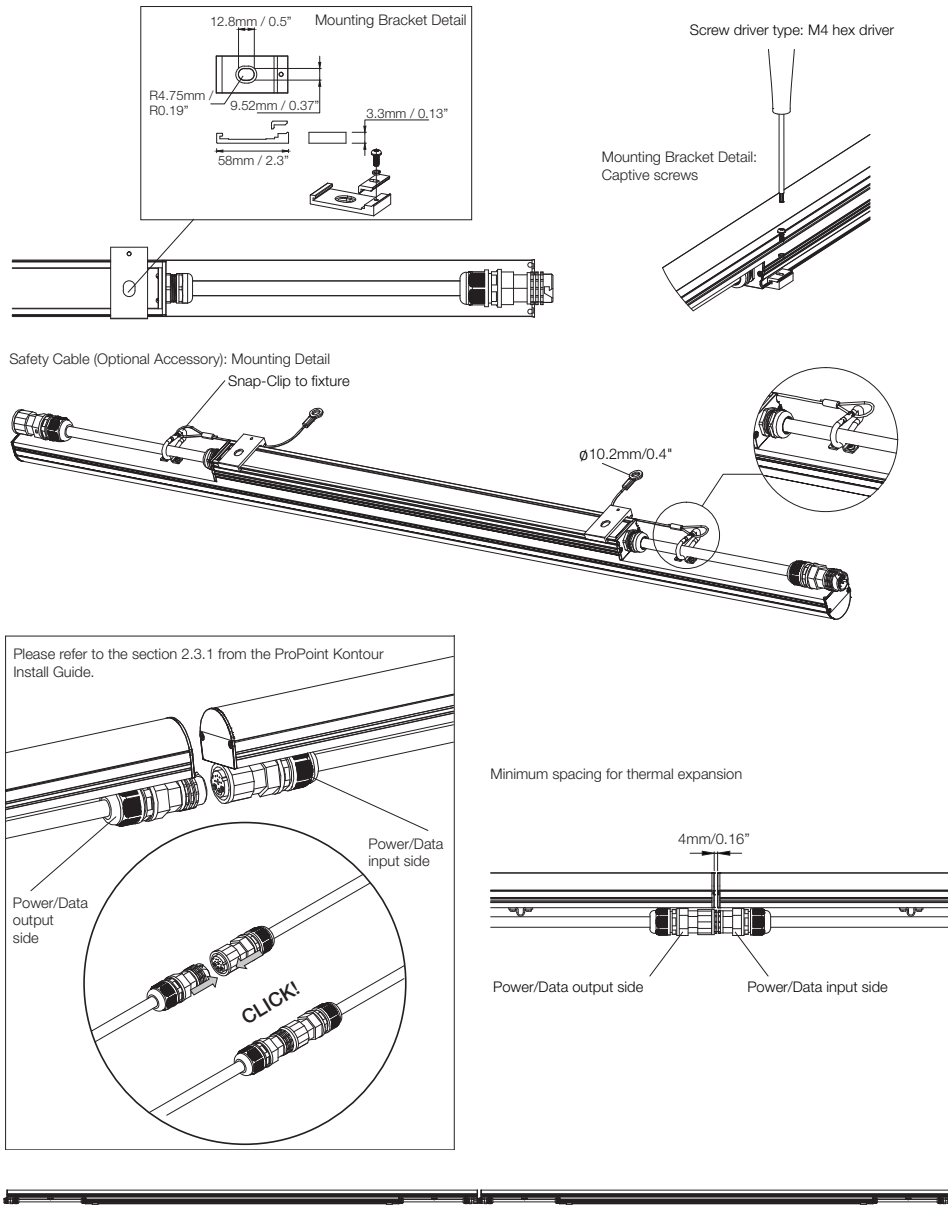
Product Specification

DS0144US V1.0 04/21

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ProPoint Kontour Round Narrow RGBW

Mounting



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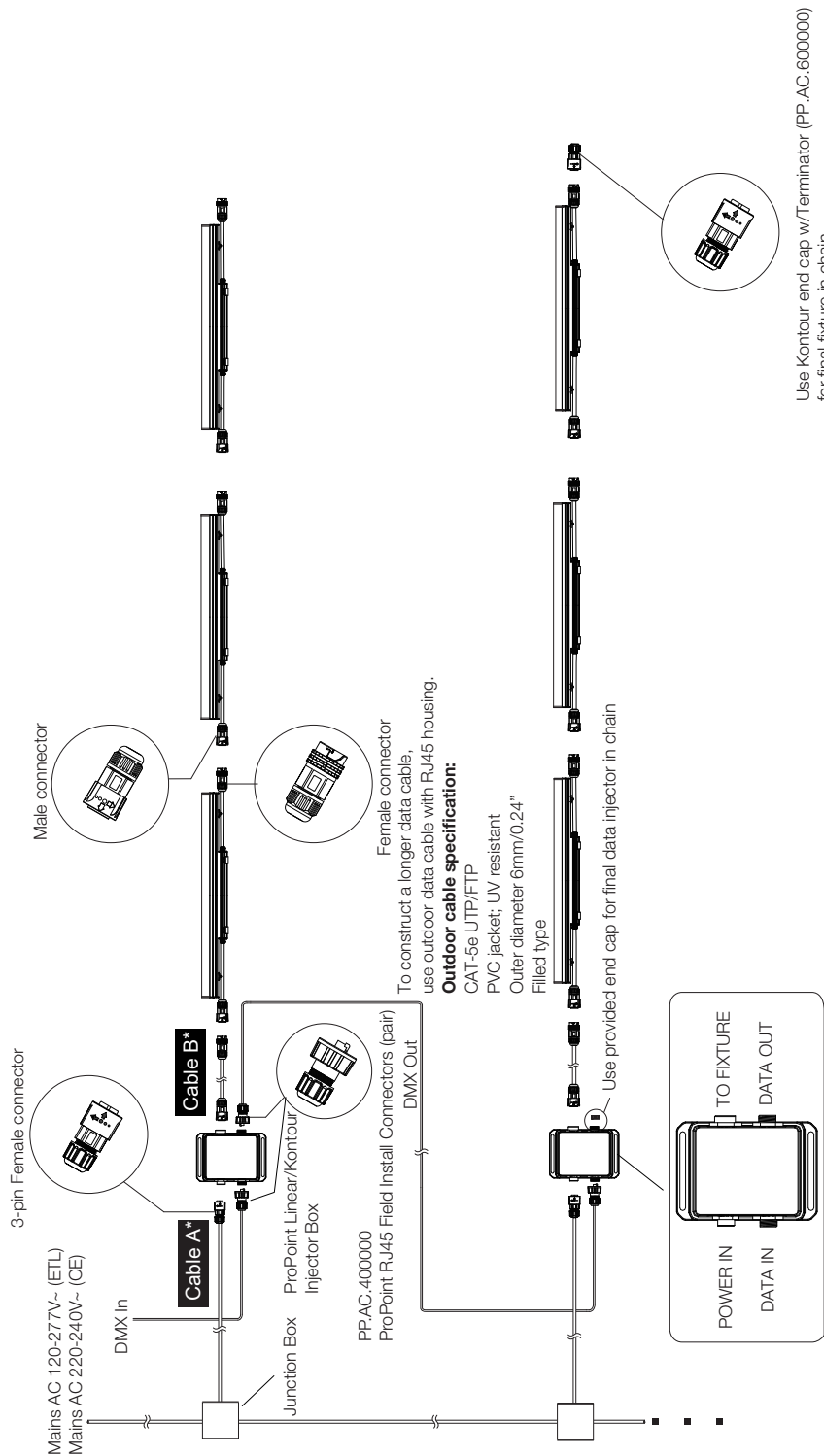
Product Specification

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ProPoint Kontour Round Narrow RGBW

System Diagram



1. All ordering information of accessories can be referred to next page.
 2. All interconnection information can be referred to next page.
- * Cable A; Cable B: Please refer to System Diagram Accessories table for options.

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Product Specification

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ProPoint Kontour Round Narrow RGBW

System Diagram

Wiring Information Details

ProPoint Kontour Narrow -ETL

120V

Model	Power Consumption (Typ.)	Input Voltage	Or Approved Equal	Max Connected Chain
300mm / 12"	4W	120V		432
600mm / 24"	8W	120V		216
1200mm / 48"	16W	120V		108
2400mm / 96"	32W	120V		54

220V-240V

Model	Power Consumption (Typ.)	Input Voltage	Max Connected Chain
300mm / 12"	4W	220-240V	512
600mm / 24"	8W	220-240V	400
1200mm / 48"	16W	220-240V	200
2400mm / 96"	32W	220-240V	100

277V

Model	Power Consumption (Typ.)	Input Voltage	Max Connected Chain
300mm / 12"	4W	277V	512
600mm / 24"	8W	277V	500
1200mm / 48"	16W	277V	250
2400mm / 96"	32W	277V	125

Accessories (ETL / CE)

Model No.	Description	Or Approved Equal	Item Code
PP.AC.100001	ProPoint Linear/Kontour Injector Box		AM374890055
PP.AC.100002	ProPoint Linear/Kontour Injector Box BL		AM374900055
PP.AC.100003	ProPoint Linear/Kontour Injector Box WT		AM374910055
PP.AC.600000	PP LIN/KON End Cap W / TERM.		AM380550055
PP.AC.400000	ProPoint RJ45 Field Install Connectors (pair)		AM380560055

Accessories (ETL)

Cable Type	Model No.	Description	Or Approved Equal	Item Code
Cable A*	PP.A1.303000	3M PP Linear Power Input Cable ETL		AM374840155
Cable B*	KO.KA.610000	10M Kontour PWR/DATA INT CBL ETL		AM357520055
Cable B*	KO.KA.601000	1M Kontour PWR/DATA INT CBL ETL		AM357490055
Cable B*	KO.KA.602000	2M Kontour PWR/DATA INT CBL ETL		AM357500055
Cable B*	KO.KA.603000	3M Kontour PWR/DATA INT CBL ETL		AM357510055

* All cables come pre-wired with male / female connectors.



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Product Specification

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ProPoint Kontour Round Narrow RGBW

Ordering

Model Number

Or Approved Equal

KXX	.	2	.	9	4	4	4	4	2	.	X	.	XX
Kontour Length	Width	Control	Color	CCT	Approbation	Lens	Finish	Pixel Config					
K1L: 12"	2: Narrow	9: DMX	4: RGBW	4: 4000K	4: cETLus	2: Diffused Round Lens	1: Gray	01: 1PXL					
K2L: 24"							2: Black	02: 2PXL					
K4L: 48"							3: White	04: 4PXL					
K8L: 96"								08: 8PXL					

*Abbreviations in Description

WD: Wide NW: Narrow R: Round BL: Black WT: White

Fixtures

Model No.	Description	Item Code
K1L.2.944421.01	ProPoint Kontour R 12" NW RGBW 1PXL ETL	AM405380055
K2L.2.944421.01	ProPoint Kontour R 24" NW RGBW 1PXL ETL	AM405400055
K2L.2.944421.02	ProPoint Kontour R 24" NW RGBW 2PXL ETL	AM406220055
K4L.2.944421.01	ProPoint Kontour R 48" NW RGBW 1PXL ETL	AM405420055
K4L.2.944421.04	ProPoint Kontour R 48" NW RGBW 4PXL ETL	AM406240055
K8L.2.944421.01	ProPoint Kontour R 96" NW RGBW 1PXL ETL	AM405440055
K8L.2.944421.08	ProPoint Kontour R 96" NW RGBW 8PXL ETL	AM406260055
K1L.2.944422.01	ProPoint Kontour R 12" NW RGBW 1PXL BL ETL	AM405460055
K2L.2.944422.01	ProPoint Kontour R 24" NW RGBW 1PXL BL ETL	AM405480055
K2L.2.944422.02	ProPoint Kontour R 24" NW RGBW 2PXL BL ETL	AM406280055
K4L.2.944422.01	ProPoint Kontour R 48" NW RGBW 1PXL BL ETL	AM405500055
K4L.2.944422.04	ProPoint Kontour R 48" NW RGBW 4PXL BL ETL	AM406300055
K8L.2.944422.01	ProPoint Kontour R 96" NW RGBW 1PXL BL ETL	AM405520055
K8L.2.944422.08	ProPoint Kontour R 96" NW RGBW 8PXL BL ETL	AM406320055
K1L.2.944423.01	ProPoint Kontour R 12" NW RGBW 1PXL WT ETL	AM405540055
K2L.2.944423.01	ProPoint Kontour R 24" NW RGBW 1PXL WT ETL	AM405560055
K2L.2.944423.02	ProPoint Kontour R 24" NW RGBW 2PXL WT ETL	AM406340055
K4L.2.944423.01	ProPoint Kontour R 48" NW RGBW 1PXL WT ETL	AM405580055
K4L.2.944423.04	ProPoint Kontour R 48" NW RGBW 4PXL WT ETL	AM406360055
K8L.2.944423.01	ProPoint Kontour R 96" NW RGBW 1PXL WT ETL	AM405600055
K8L.2.944423.08	ProPoint Kontour R 96" NW RGBW 8PXL WT ETL	AM406380055



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Product Specification

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ProPoint Kontour Round Narrow RGBW

Ordering

Accessories (ETL / CE)

Model No.	Description	Or Approved Equal	Item Code
PP.AC.100001	ProPoint Linear/Kontour Injector Box		AM374890055
PP.AC.100002	ProPoint Linear/Kontour Injector Box BL		AM374900055
PP.AC.100003	ProPoint Linear/Kontour Injector Box WT		AM374910055
PP.AC.600000	PP LIN/KON End Cap W / TERM.		AM380550055
PP.AC.400000	ProPoint RJ45 Field Install Connectors (pair)		AM380560055

Accessories (ETL)

Model No.	Description	Or Approved Equal	Item Code
PP.A1.303000	3M PP Linear Power Input Cable ETL		AM374840155
KO.KA.610000	10M Kontour PWR/DATA INT CBL ETL		AM357520055
KO.KA.601000	1M Kontour PWR/DATA INT CBL ETL		AM357490055
KO.KA.602000	2M Kontour PWR/DATA INT CBL ETL		AM357500055
KO.KA.603000	3M Kontour PWR/DATA INT CBL ETL		AM357510055

Accessories (Optional)

Model No.	Description	Or Approved Equal	Item Code
KO.AA.900010	Kontour Safety Cable 0.25M (10")		AM403000055

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Product Specification

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APPENDIX I

AS-BUILTS AND HISTORICAL DRAWINGS-1

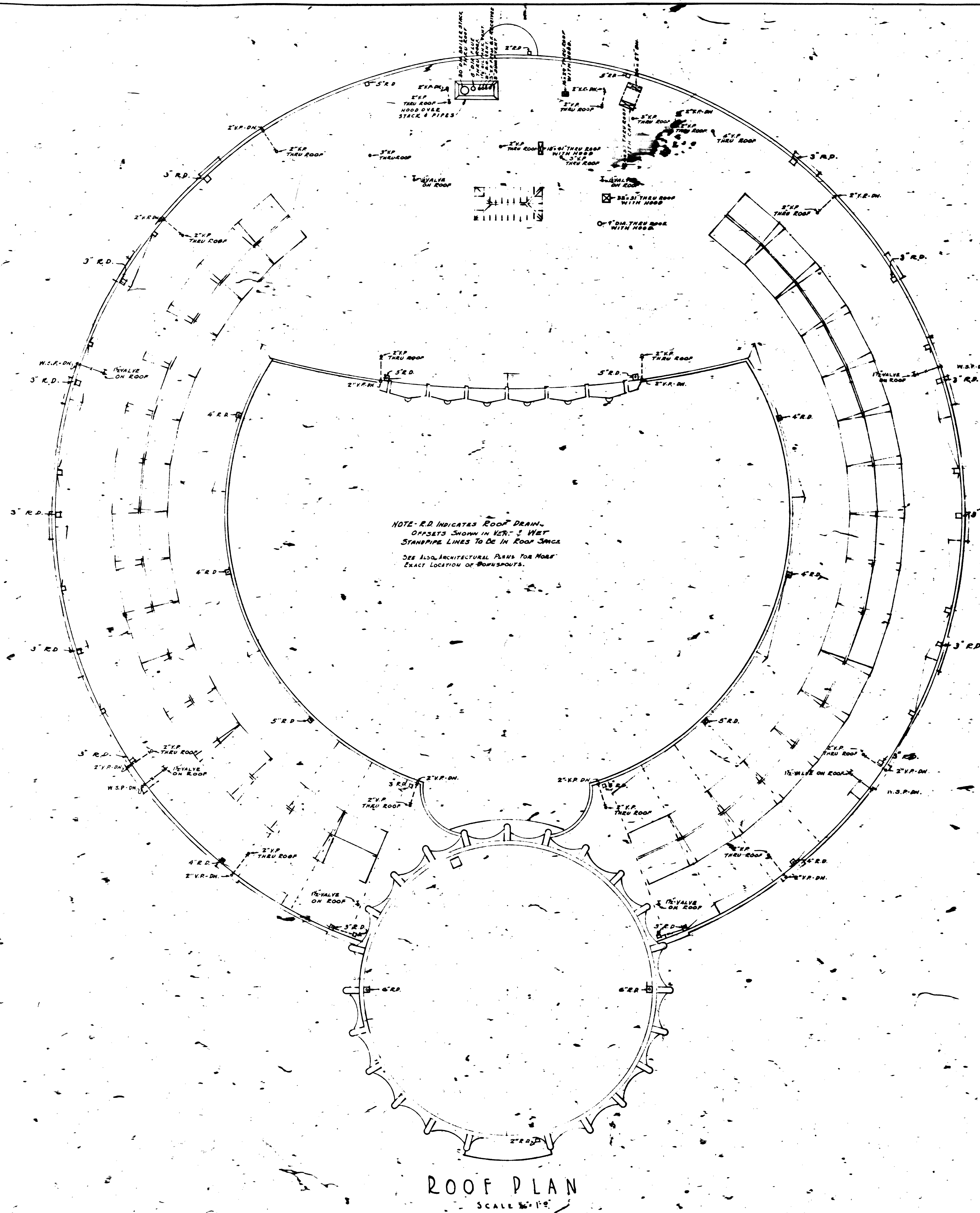
AS-BUILTS AND HISTORICAL DRAWINGS are uploaded to Planetbids.

APPENDIX J

AS-BUILTS AND HISTORICAL DRAWINGS-2

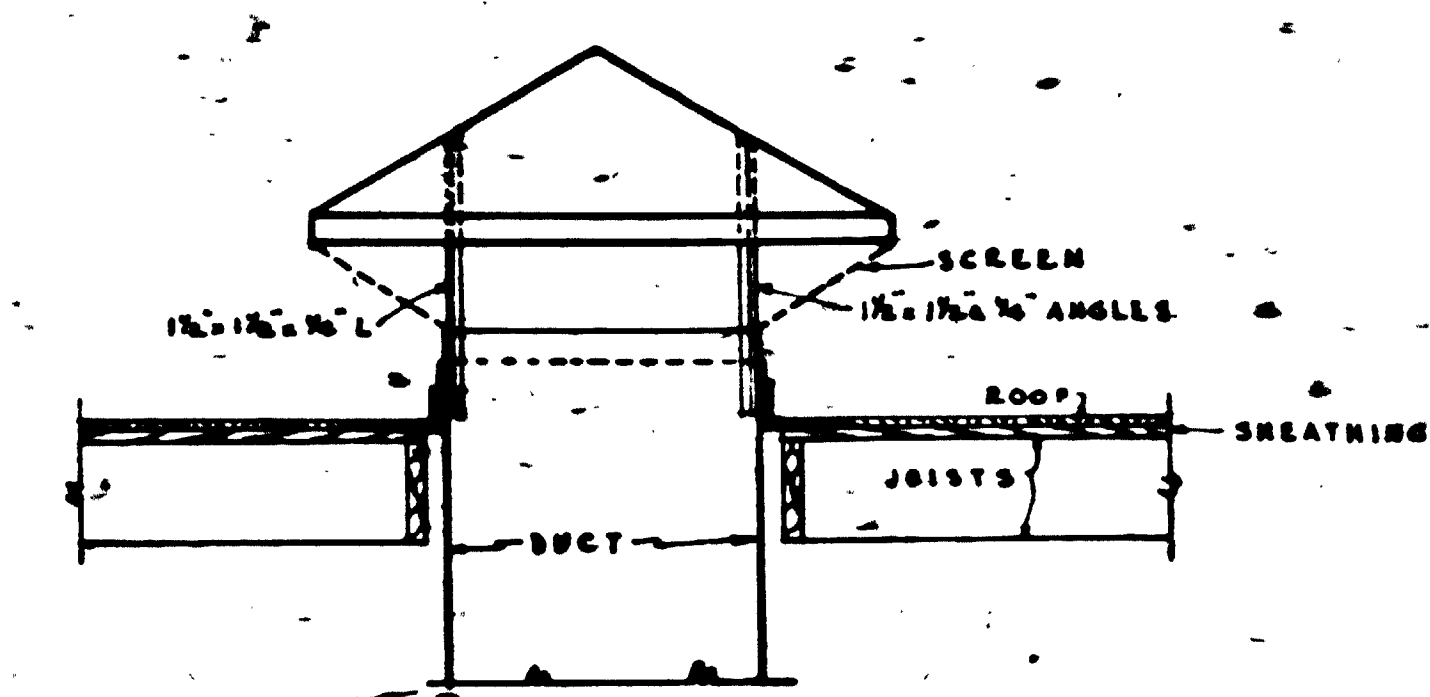
AS-BUILTS AND HISTORICAL DRAWINGS are uploaded to Planetbids.

APPENDIX K
RECORD PLUMBING DRAWINGS

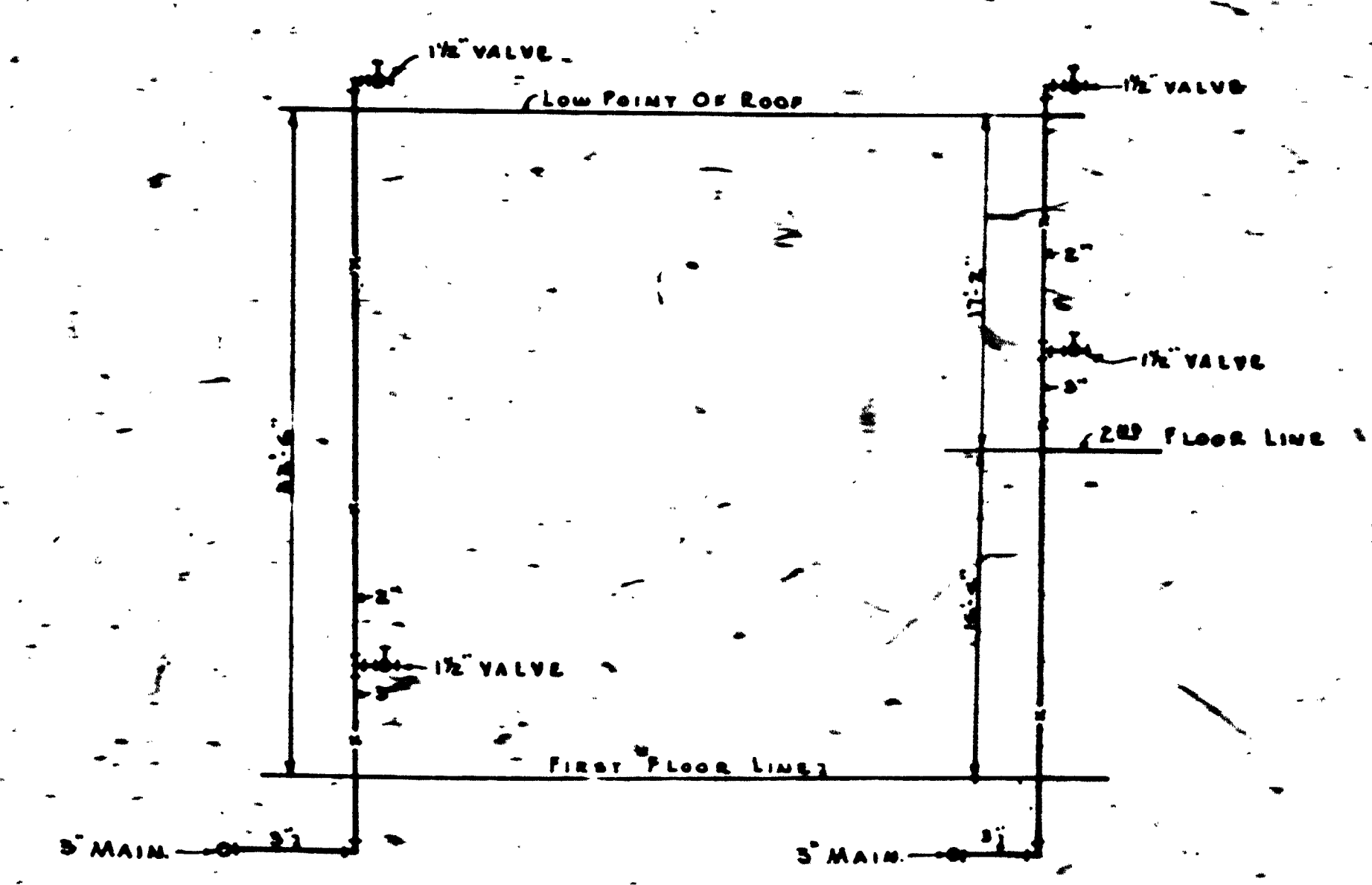


NOTE: R.D. INDICATES ROOF DRAIN.
 OFFSETS SHOWN IN R.C.R. & W.P.
 STANDPIPE LINES TO BE IN ROOF SPACE.
 SEE ALSO ARCHITECTURAL PLANS FOR MORE
 EXACT LOCATION OF DOWNSPOUTS.

ROOF PLAN
 SCALE 1/4" = 1'-0"

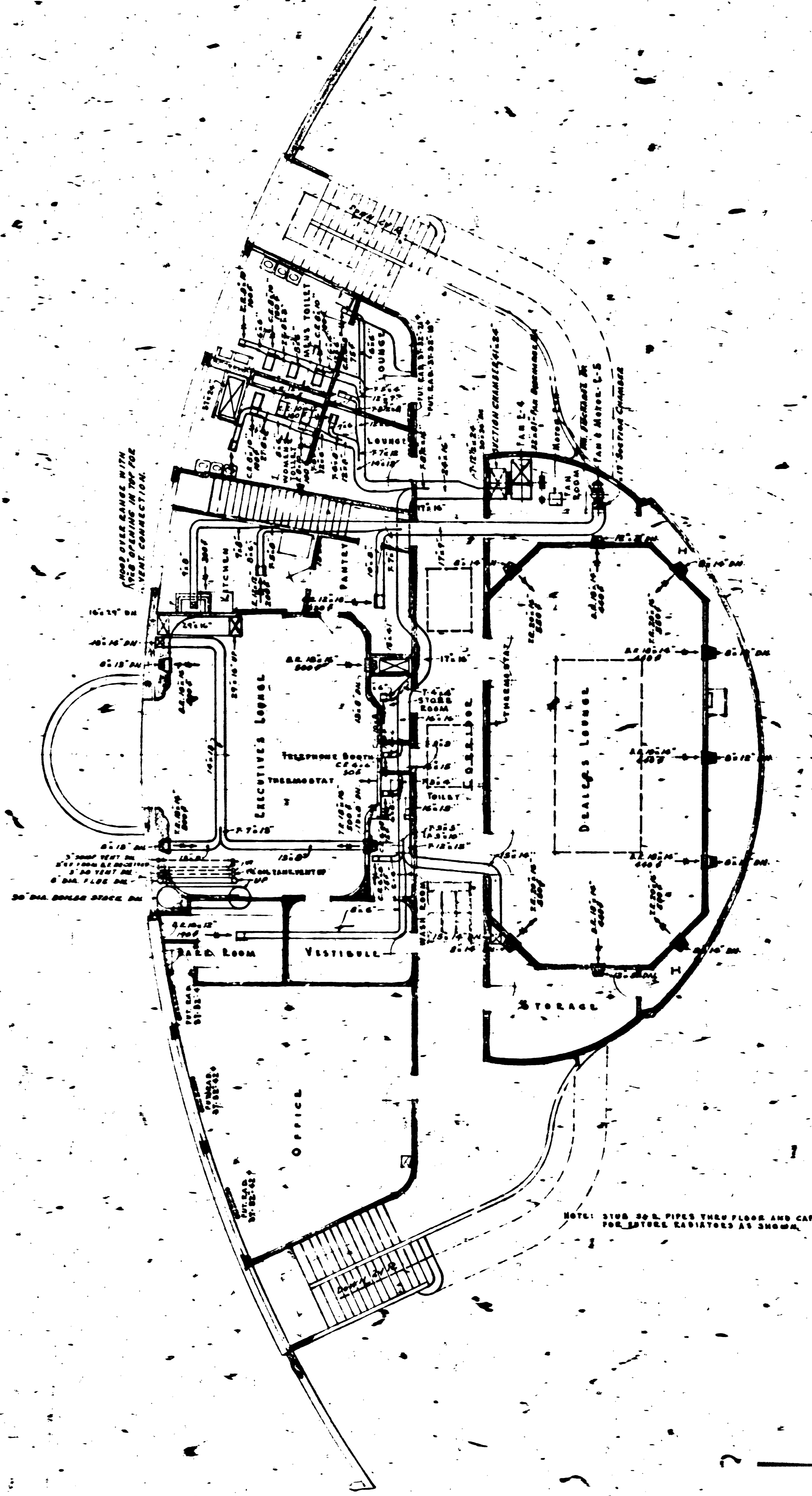


DETAIL OF HOOD FOR
 FAN DISCHARGES
 NOT TO SCALE



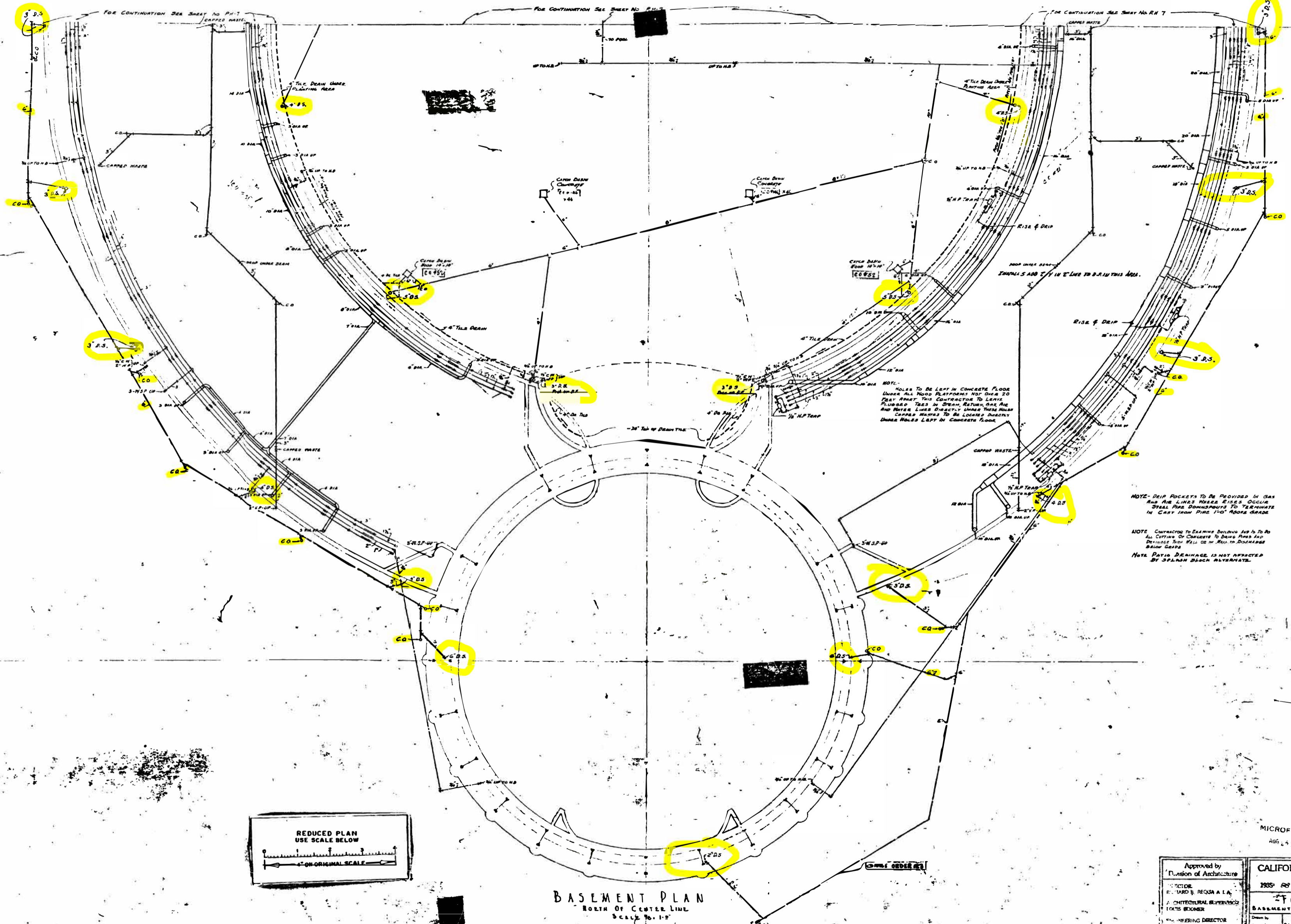
WET STANDPIPE CONNECTIONS
 NOT TO SCALE

CALIFORNIA PACIFIC INTERNA EXPOSITION	
1935 SAN FRANCISCO CALIFORNIA	
FORD BUILDING ROOF PLAN	
E. J. PHILLIPS ARCHITECT	
R. E. PHILLIPS MECHANICAL ENGINEER D. H. V.	



SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"

CALIFORNIA PACIFIC INTERNATIONAL	
FORD BUILDING	
Second Floor Plan	
C58	
E. L. PHILLIPS MECHANICAL ENGINEER H.V-3	



NOTE: HOLES TO BE LEFT IN CONCRETE FLOOR UNDER ALL ROOF PLATFORMS NOT OVER 20 FEET FROM THE CENTERLINE TO LEAVE FLOORED TIES IN DRAIN RETURN, GAS AIR AND WATER LINES DIRECTLY UNDER THEM. HOLE CAPS MUST BE LOCATED EXACTLY UNDER HOLES LEFT IN CONCRETE FLOOR.

NOTE: DRIP SOCKETS TO BE PROVIDED IN GAS AND AIR LINES WHERE RISERS OCCUR. STEEL PIPE DOWNWARDS TO TERMINATE IN CAST IRON PIPE 1/2\"/>

NOTE: CONTRACTOR TO EXAMINE BUILDING AND IS TO BE ALL OFFERS OF CONCRETE TO DRAIN PIPES AND DRAINAGE TIES SHALL BE IN FULL IN DIMENSIONS FROM CENTER.

NOTE: DRAINAGE IS NOT PROTECTED BY SPLASH BLOCK ALTERNATE.



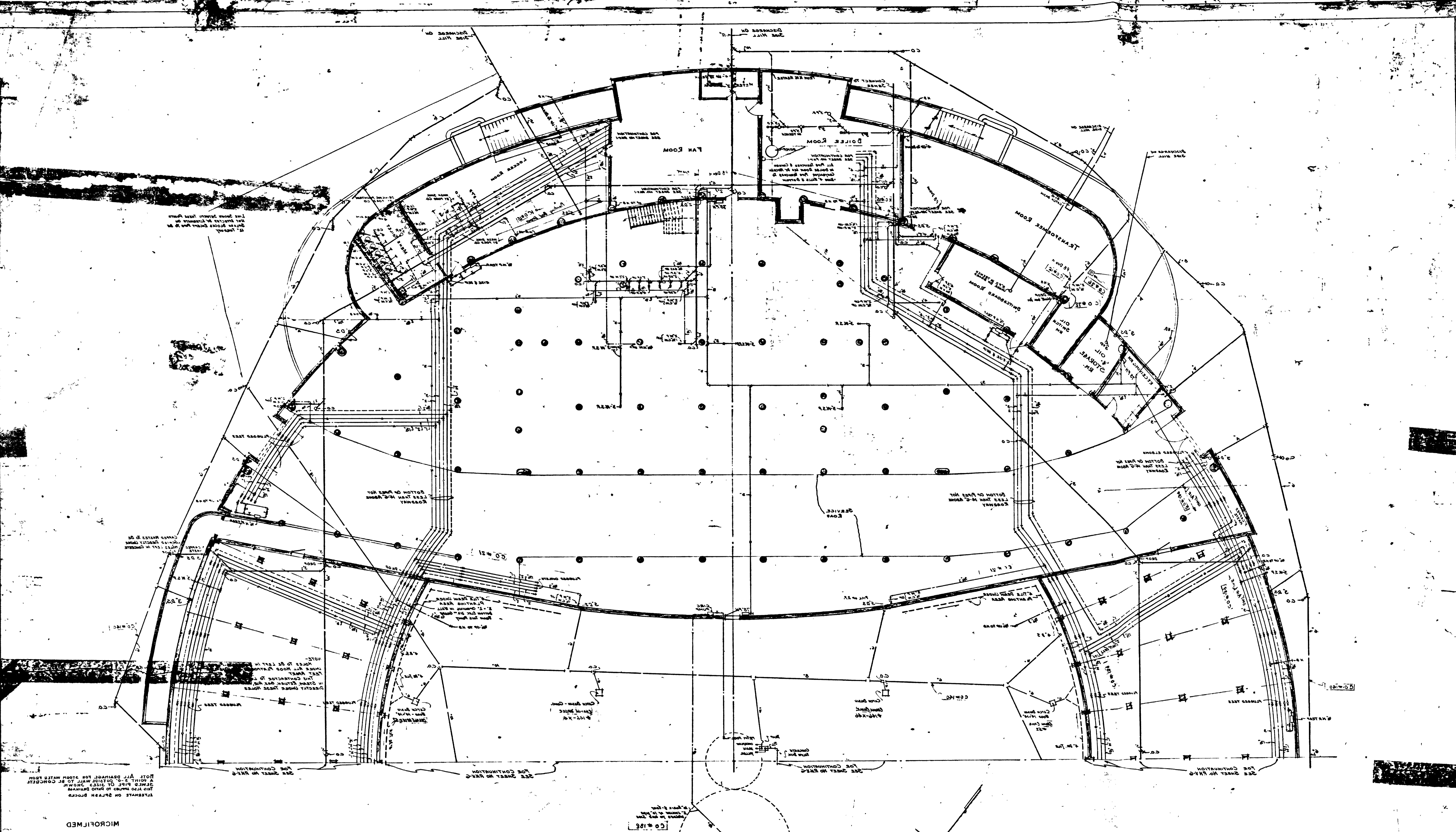
BASEMENT PLAN
NORTH OF CENTER LINE
SCALE TO 1/2"

MICROFILMED
AUG 24 1989

Approved by Division of Architecture	CALIFORNIA PACIFIC INTERNATIONAL EXPOSITION 1935 SAN DIEGO, CALIFORNIA FORD BUILDING - BASEMENT PLAN - NORTH OF CENTER LINE
DESIGNED BY RICHARD S. ELQHA A.I.A.	
ARCHITECTURAL SUPERVISOR LOUIS BOHNER	
MECHANICAL SUPERVISOR J. H. DAVIES	
MECHANICAL SUPERVISOR J. H. DAVIES	DIVISION OF ARCHITECTURE RICHARD S. ELQHA A.I.A. DIRECTOR LOUIS BOHNER ARCHITECTURAL SUPERVISOR J. H. DAVIES ENGINEERING SUPERVISOR H. R. PHILLIPS MECHANICAL ENGINEER
MECHANICAL SUPERVISOR H. R. PHILLIPS	
MECHANICAL SUPERVISOR H. R. PHILLIPS	
MECHANICAL SUPERVISOR H. R. PHILLIPS	

Record Plumbing Drawing - Basement Plan North

Record plumbing drawings documents are provided for information only. Actual conditions to be verified in field.



- BASEMENT PLAN -
 SOUTH OF CENTER LINE
 SCALE: 1/8" = 1'-0"

REDUCED PLAN
 USE SCALE BELOW
 1" ON ORIGINAL SCALE

Record Plumbing Drawing - Basement Plan South

MICROFILMED
 AUG 28 1983

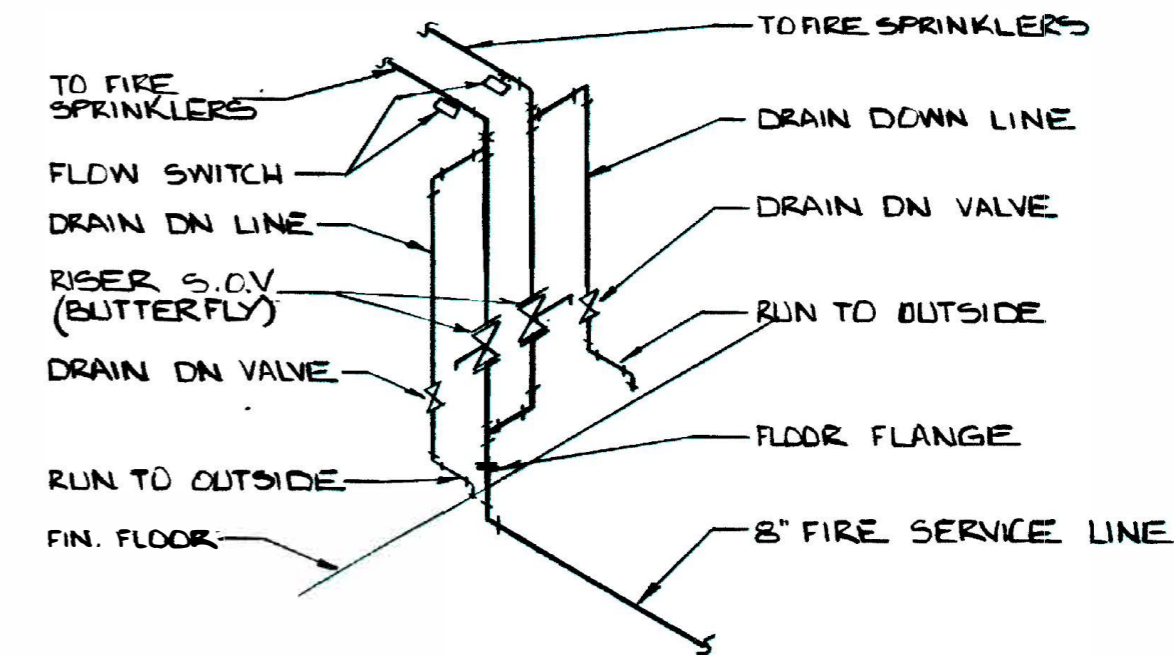
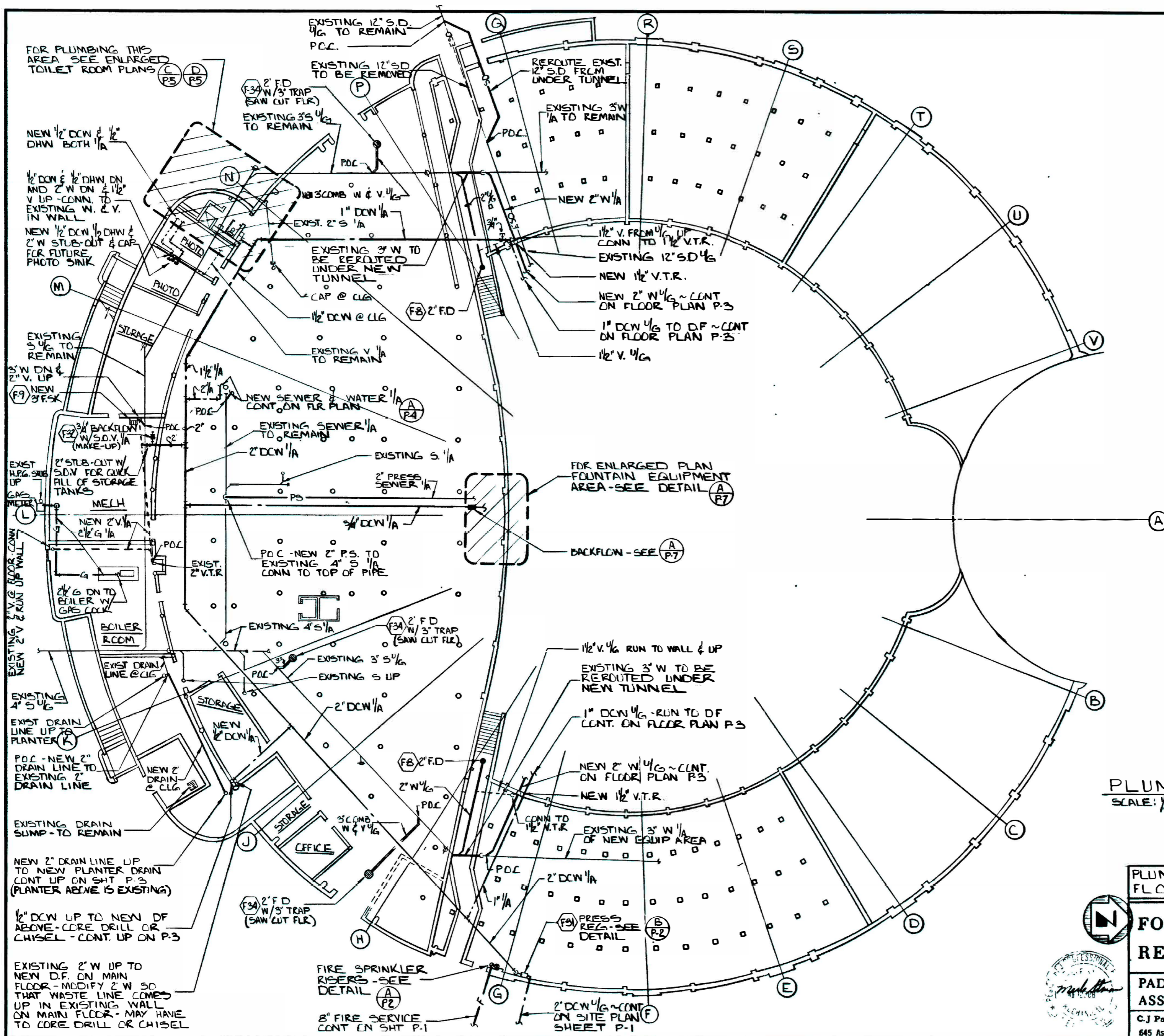
DIVISION OF ARCHITECTURE RECORDS & REPRODUCTION 1200 N. MARKET STREET SACRAMENTO, CALIFORNIA 95833	PROJECT NO. 1028 SHEET NO. 1028-1
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CALIFORNIA PATHOLOGICAL INTERNATIONAL
 LABORATORY
 1200 N. MARKET STREET
 SACRAMENTO, CALIFORNIA 95833

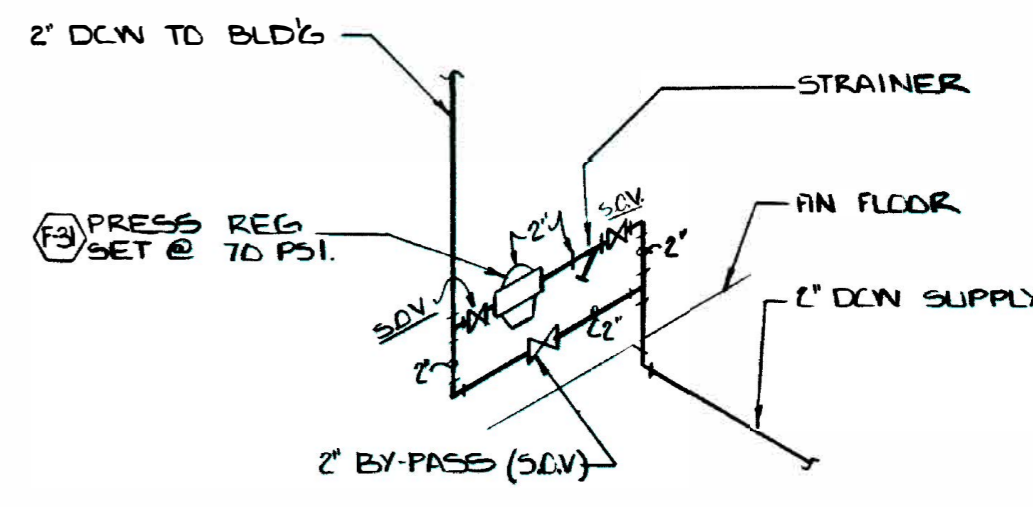
FORD BUILDING
 SOUTH OF CENTER LINE
 BASEMENT PLAN

DATE: 10/1/82
 DRAWN BY: [Name]
 CHECKED BY: [Name]

NOTE:
 CONTRACTOR TO OBTAIN ALL NECESSARY
 PERMITS AND APPROVALS FROM ALL
 AFFECTED AGENCIES.



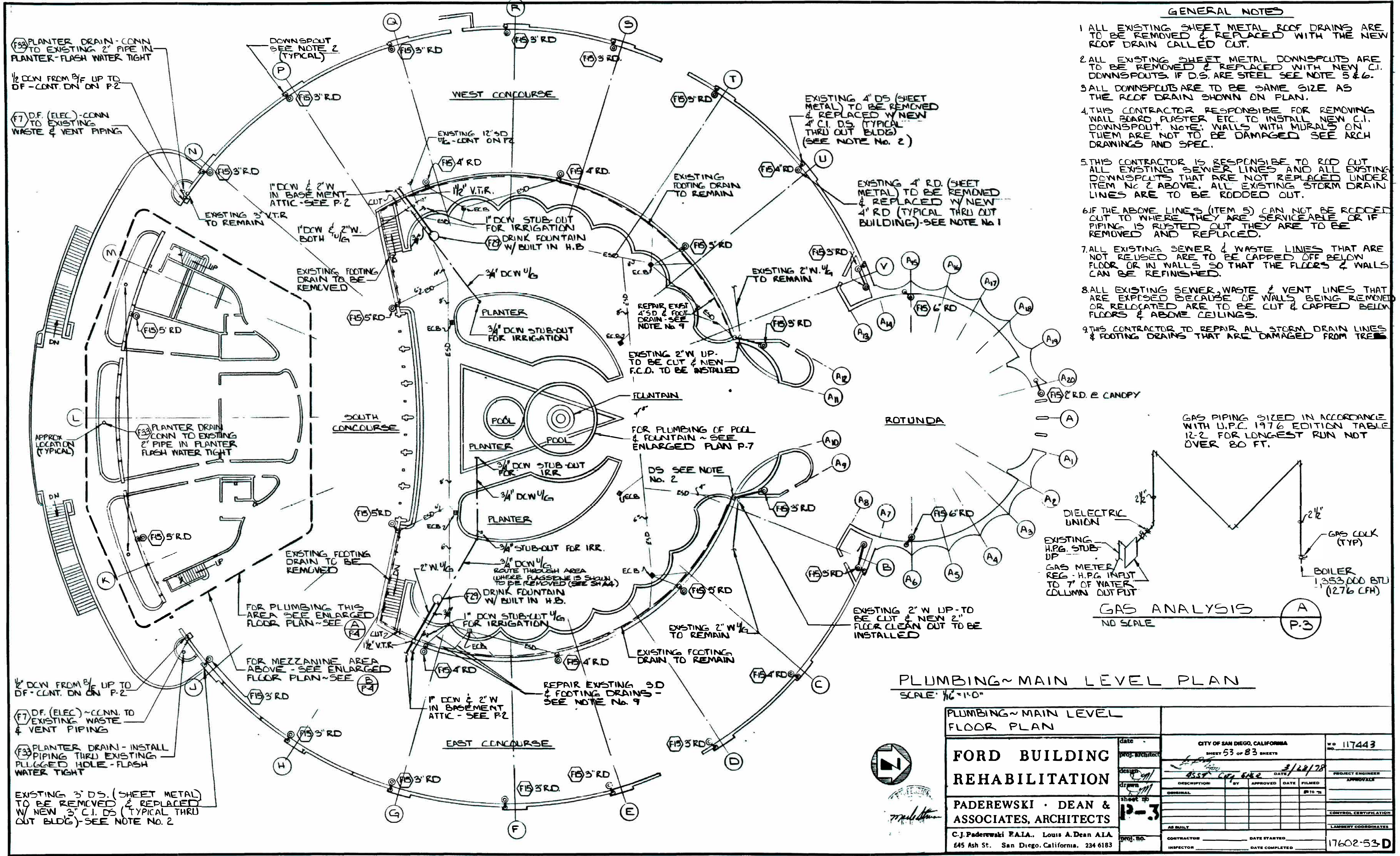
FIRE SPRINKLER RISER DETAIL (A P2)
NO SCALE



PRESS. REGULATOR STATION (B P2)
NO SCALE

PLUMBING ~ BASEMENT FLOOR PLAN
SCALE: 1/16" = 1'-0"

PLUMBING ~ BASEMENT FLOOR PLAN AND DETAILS		CITY OF SAN DIEGO, CALIFORNIA		W.D. NO. 117443
SHEET 52 OF 83 SHEETS		DATE 3/28/78		PROJECT ENGINEER
DESIGNER		APPROVED		APPROVAL
DRAWN		DATE		CONTROL CERTIFICATION
SHEET NO. 12-2		DATE		LANSBURY COORDINATES
AS BUILT		DATE STARTED		CONTRACTOR
CONTRACTOR		DATE COMPLETED		INSPECTOR
C.J. Paderewski F.A.I.A., Louis A. Dean A.I.A. 645 Ash St. San Diego, California, 234 6183		17602-52 - D		



APPENDIX L
ASBESTOS, LEAD AND MOLD INSPECTION REPORT

**CITY of SAN DIEGO
WORK REQUEST FOR ASBESTOS, LEAD & MOLD PROGRAM**

Department Engineering & Capital Dept.# 2112 Division Facilities & Parks Project Delivery Division
 Work Requested By Yazmin Lozano MS# 908A Phone 619-533-4679
 Facility # N/A Facility Name/Address Air & Space Museum, 2001 Pan American Plaza, San Diego, CA
1935
 Year of Construction: _____ Plans Attached? YES NO Target Start: July 18, 2025


Provide a description and location of the activities **you plan on conducting**:

Work request to check for asbestos lead and mold at various building locations of the Air & space Museum for the Roofing Rehab project. Please check Paint on fins, trim paint at entry and back entry location, roofing systems (roofing mastic at steel element protrusions and other roofing elements typical of asbestos).

Open Internal Order or WBS# to ALMP for labor cost. ALMP Business Area 2115; Fund 100000; Revenue Acct 424071. The following accounting numbers are for laboratory, abatement, and/or other NPE. Request estimate if needed.

Accounting Numbers: 3000014581 200391 512034 B-20116.05.02
 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.

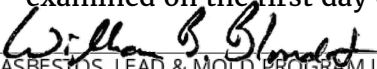

Signature  **Title** Assistant Civil Engineer **Date** 07-11-2025
eSigned via GovOS.com
Key: 346ed47d4c0d6aeb16a4a79222ccc158
Print Name Yazmin Lozano **Div. Analyst Name** Patricia Soria

FOR OFFICE USE ONLY

Date Received 7/11/2025 Inspector Brad Blondet

Records/Inspection Information On December 22, 2020 an asbestos report and specification for removal was provided. On June 5, 2023 an additional asbestos report and lead based paint report was issued with removal specifications for the identified materials.

Impact on Project No further testing is needed unless the scope of work changes during the course of the project. Attached are the documents from 2020, and the documents from 2023 in case these are missing. ALMP will need to be included in pre-construction meetings. All testing documents will need to be kept at the project site for quick reference by County inspectors. Prior to any abatement work, the chosen abatement sub-contractor will need to submit a Work Plan for ALMP approval. Certifications will be examined on the first day of the project to ensure validity.

 7/28/25  for 7/28/2025
 ASBESTOS, LEAD & MOLD PROGRAM INSPECTOR DATE ASBESTOS, LEAD & MOLD PROGRAM MANAGER DATE

Asbestos, Lead & Mold Program

ENGINEERING & CAPITAL PROJECTS DEPARTMENT CITYWIDE PLAN CHECK TRANSMITTAL

TO:
ATTN:
M.S.:

FROM: _____
SENDER: _____

REQUEST:

Plan Check

ATTACHMENTS:

Plan
 Technical Specifications

DATE SENT:	RETURN BY:
WBS NO.:	DWG NO.:

PROJECT TITLE:
PROJECT MANAGER:
PROJECT ENGINEER:

SPECIFIC INFORMATION REQUESTED/PROVIDED:

RETURN TO: → **CITY OF SAN DIEGO**
ATTN: Yazmin Lozano
CITY, STATE, ZIP _____
TELEPHONE NO.: _____
E-MAIL ADDRESS: _____

TO BE COMPLETED BY RECIPIENT

RESPONSE: INFORMATION PROVIDED NO CONFLICT CONFLICT/REMARKS ATTACHMENTS

REMARKS: _____

UTILITY TIME SLOTS OF: _____ WORKING DAYS ARE REQUIRED CALENDAR DAYS ARE REQUIRED

SPECIAL SPECIFICATION REQUIREMENTS ATTACHED: YES NO

INFORMATION PROVIDED BY: _____ PHONE: _____ DATE: _____

**CITY of SAN DIEGO
WORK REQUEST FOR ASBESTOS, LEAD & MOLD PROGRAM**

Department Engineering & Capital Dept.# _____ Division Capital Asset Management

Work Requested By Michelle Garcia-Quilico MS# 908A Phone 619-533-6635

Facility # 625 Facility Name/Address Air & Space Museum - 2001 Pan American Plaza, Balboa Park

Year of Construction: 1934 Plans Attached? YES NO Target Start: December 07, 2020

Provide a description and location of the activities **you plan on conducting**:

Roof replacement project. Demolition and removal of the existing roofing systems. Installation of the new roofing systems to include the following: roof penetration, installation of the roofing membrane, seaming and fastening methods, installation of mechanically fastened and fully adhered roof systems, roof penetrations and flashings.

Replacement of drip pans in all HVAC equipment


Replacement of all pitch pans

Replace all cast-iron drain receptor

Open Internal Order or WBS# to ALMP for labor cost. ALMP Business Area 2115; Fund 100000; Revenue Acct 424071. The following accounting numbers are for laboratory, abatement, and/or other NPE. Request estimate if needed.

Accounting Numbers:	<u>1714141216</u>	<u>400002</u>	<u> </u>	<u>B-20116</u>
	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  **Title** Associate Engineer-Civil **Date** 12/03/2020

Print Name Michelle Garcia-Quilico **Div. Analyst Name** Gary Lane

FOR OFFICE USE ONLY

Date Received 12/4/2020 Inspector Brad Blondet

Records/Inspection Information Asbestos was found in the older roofing paper layer under the newer layer.

Impact on Project ALMP will need to be included in the project meetings and will provide oversight for the roofing removal. The General Contractor will need an asbestos certified company to abate the roof.

Please see the attached asbestos specification and testing report.

 12/22/20 Robert Cox for 12/23/2020
ASBESTOS, LEAD & MOLD PROGRAM INSPECTOR DATE ASBESTOS, LEAD & MOLD PROGRAM MANAGER DATE

Asbestos, Lead & Mold Program

ASBESTOS ABATEMENT SPECIFICATION

for

BALBOA PARK AIR & SPACE MUSEUM-ROOF REPLACEMENT

December 22, 2020

Prepared by:



Wm. Brad Blondet
Asbestos, Lead & Mold Program
Inspector
CA CSST #99-2689
CDPH Lead S/IA/PM #1386/1387/1388

Reviewed by:



Robert Cox
Asbestos, Lead & Mold Program Supervisor
CA Asbestos Consultant #18-6345
CDPH Lead IA/PM #2243/2242

City of San Diego
Environmental Services Department
Disposal & Environmental Protection Division
Asbestos, Lead & Mold Program
9601 Ridgehaven Court, Ste. 310
San Diego, CA 92123
Tel: (858) 492-5086
Fax: (858) 492-5041

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I. DEFINITIONS

- A. **ABATEMENT:** Any set of measures designed to permanently eliminate lead based paint hazards including paint removal, building component removal, or near-permanent enclosure of lead based paint hazards.
- B. **ABATEMENT CONTRACTOR:** The designated sub-contractor performing the required abatement work outlined in this specification.
- C. **ACCREDITED or ACCREDITATION (when referring to a person or laboratory):** A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).
- D. **AIR MONITORING:** The process of measuring the fiber content of a specific volume of air.
- E. **AMENDED WATER:** Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.
- F. **ASBESTOS:** The asbestiform varieties of Serpentine (Chrysotile), Riebeckite (Crocidolite), Cumingtonite, Grunerite, Anthophyllite, and Actinolite Tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
- G. **ASBESTOS CONTAINING MATERIAL (ACM):** Any material containing more than 1% by weight of asbestos of any type or mixture of types.
- H. **ASBESTOS-CONTAINING BUILDING MATERIAL (ACBM):** Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
- I. **ASBESTOS CONTAINING WASTE MATERIAL:** Any material which is or is suspected of being or any material contaminated with an asbestos containing material which is to be removed from a work area for disposal.
- J. **ASBESTOS DEBRIS:** Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
- K. **AUTHORIZED VISITOR:** The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.
- L. **BARRIER:** Any surface that seals off the work area to inhibit the movement of fibers.

- M. **BREATHING ZONE:** A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- N. **DEMOLITION:** The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- O. **DISPOSAL BAG:** A properly labeled 6 mil thick leak tight plastic bags used for transporting asbestos waste from work and to disposal site.
- P. **ENCAPSULANT:** A penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos containing materials rather than for in situ encapsulation.
- Q. **ENCAPSULATION:** Treatment of asbestos containing materials, with an encapsulant.
- R. **ENCLOSURE:** The construction of an air tight, impermeable, permanent barrier around asbestos containing material to control the release of asbestos fibers into the air.
- S. **FILTER:** A media component used in respirators to remove solid or liquid particles from the inspired air.
- T. **FRIABLE ASBESTOS MATERIAL:** Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry. A material can also be rendered friable via mechanical means.
- U. **HEPA FILTER:** A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.
- V. **HEPA FILTER VACUUM COLLECTION EQUIPMENT (or vacuum cleaner):** High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
- W. **NEGATIVE PRESSURE RESPIRATOR:** A respirator in which the air pressure inside the respiratory inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
- X. **PERSONAL MONITORING:** Sampling of the asbestos fiber concentrations within the breathing zone of an employee.
- Y. **PROTECTION FACTOR:** The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the

breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

- Z. PROJECT MONITOR: City of San Diego Asbestos & Lead Management Program staff or their designated consultant.
- AA. VISIBLE EMISSIONS: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- BB. WET CLEANING: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.
- CC. WORK AREA: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by Title 8 CCR 1529

II. GENERAL REQUIREMENTS

- A. DESCRIPTION OF WORK FOR BALBOA PARK AIR AND SPACE MUSEUM ROOF
 1. ABATEMENT CONTRACTOR shall supply all labor, transportation, material, apparatus, and equipment for the removal, and disposal of asbestos-containing materials (ACM) to be impacted as a result of this project, as identified in Appendix C of this section. The building(s) and building materials affected are: **Facility 625 Roofing**

ABATEMENT CONTRACTOR shall be responsible for ensuring the building will not be contaminated with asbestos containing material during work and shall be responsible for any clean-up determined necessary by City of San Diego's PROJECT MONITOR.
 2. Before submitting his/her bid, the ABATEMENT CONTRACTOR shall visit the project site and verify the location of the asbestos-containing materials that will be removed under the terms and conditions of the contract and this specification.
 3. Abatement work shall be performed within agreed upon hours submitted prior to project start which will not include designated City holidays.
 4. Before the beginning of the work related to asbestos abatement, ABATEMENT CONTRACTOR shall hold a safety construction meeting with all asbestos related supervisors, workers, and other contractors on-site that provides an overview of the accepted asbestos work plan, decontamination procedures specific to this project (decontamination procedures shall be on paper with copies for all present), and disposal plan for this project. Meeting shall include the PROJECT MONITOR and any other designated City representative.

B. CONTRACTOR USE OF THE PREMISES

1. All site rules and regulations affecting the work should be complied with while engaged in project activities. The existing building should be maintained in a safe condition throughout the asbestos abatement activities. The ABATEMENT CONTRACTOR will be responsible for adhering to all applicable building codes and fire safety requirements.
2. All public areas will be kept free of accumulated waste, materials, rubbish, and debris.

C. PROJECT COORDINATION

1. It will be the responsibility of the ABATEMENT CONTRACTOR to coordinate all site activities with the City's Asbestos, Lead & Mold Program's (ALMP) PROJECT MONITOR including any meetings, surveys, special reports, and site usage limitations.

D. PROJECT SUBMITTALS

The ABATEMENT CONTRACTOR shall not commence any work until approval has been given from the City. The ABATEMENT CONTRACTOR shall submit the following 60 days prior to commencement of any asbestos abatement activities:

1. Asbestos Abatement Work Plan:
 - a) In addition to information required in this section, Work Plan shall contain all information required under Title 8 CCR 1529. Submit a detailed job-specific plan that includes:
 - (1) The procedures proposed to comply with the requirements of this specification and all applicable regulations.
 - (2) Detailed drawings that identify the location, size, layout and details of the Work Areas, any equipment, disposal storage, restrooms, and worker decontamination facilities.
 - (3) The sequencing of abatement work and the interface of trades involved in the performance of work. Provide a time line that details each major phase of work activity and anticipated time it will occur.
 - (4) The methods to be used to assure the safety of occupants and visitors to the site.
 - (5) Detailed description of the methods to be employed to ensure asbestos is not released above background air levels.
 - (6) The method of removal to minimize asbestos dust generation in the Work Area,
 - b) Work site coordination submittals including:
 - (1) Contingency and Spill Plan: Prepare a contingency plan for emergencies including fire, accident, power failure, or any other event that may require modification or abridgement of decontamination or Work Area isolation procedures. Include in plan specific procedures for decontamination or Work Area isolation. Plan should be specific for all types of hazardous materials or situations specific to this work site. Note that

nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

(2) Telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company.

2. Notifications:

a) If required by regulations, submit copies of notifications made to regulatory agencies along with a copy of certified mail receipt.

b) Notify emergency service agencies including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency. Notification is to include methods of entering Work Area, emergency entry and exit locations, modifications to fire notification or fire-fighting equipment, and other information needed by agencies providing emergency services.

c) Notifications of Emergency: Any individual at the job site may notify emergency service agencies if necessary without effect on this contract or the Contract Sum.

d) Provide submittal identifying person responsible for responding to project site emergencies twenty-four hours a day, seven days a week.

3. ABATEMENT CONTRACTOR qualifications and personnel information submittals that include but are not limited to:

a) Submit a copy of the ABATEMENT CONTRACTOR's Asbestos DOSH Handling License.

b) Identify state licensed transporter, disposal location, and associated permits for all asbestos waste.

c) Provide all staff names, certifications, and experience. Identify their duties and responsibilities on this project. ABATEMENT CONTRACTOR shall have the following minimum levels of qualified supervision on the project site:

(1) General Superintendent: Provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the ABATEMENT CONTRACTOR's representative responsible for compliance with all applicable federal, state and local regulations and guidelines, particularly those relating to asbestos abatement and hazardous waste. Should, in the opinion of the OWNER, any language barrier exist between the on-site superintendent and the OWNER or PROJECT MONITOR, the ABATEMENT CONTRACTOR shall employ a qualified full-time interpreter or provide a new on-site superintendent at no additional cost to the OWNER. Shall be AHERA certified as asbestos supervisor.

- (2) Foreman: Provide a full time Foreman to directly supervise and direct no more than 10 abatement workers. Each Foreman will act as the Competent Person as required by Title 8 CCR 1529 for the workers the foreman is directing. The Foreman has oversight authority over the workers and reports to the General Superintendent. If there are 10 or fewer abatement workers on the project the General Superintendent may fill the Foreman's position. Shall be AHERA certified as asbestos supervisor.
 - (3) Experience and Training: The General Superintendent and foreman shall meet all the requirements as a Competent Person as required by Title 8 CCR 1529. They shall have completed training in EPA Asbestos Supervisor Training. They shall have experience with projects of similar types and sizes.
 - (4) Workers: All asbestos abatement workers shall have current EPA and OSHA asbestos abatement training.
 - (5) Certificate of Worker's Acknowledgment: Submit an original signed copy of the Certificate of Worker's Acknowledgment found in Appendix A of this section, for each worker and supervisor who is to be at the job site or enter the Work Area.
- d) Submit respiratory protection information and air monitoring data as per the following:
- (1) Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.
 - (2) Respiratory Protection Program: Submit ABATEMENT CONTRACTOR's written respiratory protection program manual as required by Title 8 CCR 1529 and 5144.
 - (3) Respiratory Protection Schedule: Submit level of respiratory protection intended for each operation required by the project.
 - (4) Copies of current respirator fit test: Fit tests must be performed annually.
- e) Submit doctor's report from medical examination conducted within the last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, the following for each worker:
- (1) Name and Social Security Number
 - (2) Physicians Written Opinion from examining physician including at a minimum the following:
 - (a) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos. Any recommended limitations on the worker

or on the use of personal protective equipment such as respirators.

(b) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.

f) Submit a notarized certification, signed by an officer of the ABATEMENT CONTRACTOR firm that exposure measurements, medical surveillance, and worker training records are being kept in conformance with Title 8 CCR 1529.

g) Identify the laboratory that will be performing the analysis of the personal samples and provide their accreditation. Also discuss the method by which the ABATEMENT CONTRACTOR will provide the analytical results to the PROJECT MONITOR within 24 hours of sampling completion.

4. Submit the following during and at the completion of the work

a) Copies of all Waste Shipment Records

b) Copies of all air monitoring results within 24 hours

5. At the end of a project, the ABATEMENT CONTRACTOR shall submit the following to the PROJECT MONITOR:

a) Personal Air Sample Results

b) Copies of Project Daily Logs

c) Containment Entry/Exit Logs

d) Waste Disposal Documentation

e) Certificate of Visual Inspection

E. SCHEDULES AND REPORTS

1. Prior to each phase of project, the ABATEMENT CONTRACTOR shall provide the City with a tentative time line which outlines the project schedule. These documents will be reviewed and approved by the City prior to the commencement of work.

F. PRODUCT DATA

1. The ABATEMENT CONTRACTOR shall submit product information that is to be used during the abatement activities prior to commencement of work (i.e., encapsulants). General information required includes manufacturer's standard printed recommendations for application and use, compliance with recognized standards of trade association and testing agencies, and safety data sheets (SDSs).

2. Polyethylene sheet

a) A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, and clear, frosted, or black as indicated.

b) Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and

Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, and frosted or black as indicated.

c) Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, frosted or black as indicated.

3. Tape

a) Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

4. Spray adhesive

a) Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

G. PROJECT CLOSE-OUT

1. Upon completion of work and prior to payment, the PROJECT MONITOR will proceed with an initial inspection of the abatement work area. A Certificate of Visual Inspection (Appendix B) will be signed by both the ABATEMENT CONTRACTOR and PROJECT MONITOR. The ABATEMENT CONTRACTOR will not be paid until the area meets the established project-specific clearance criteria and has submitted the required information.

III. SITE WORK

A. INTRODUCTION

This portion of the specification describes procedures and protocols for asbestos abatement activities. The protocols/procedures described hereafter are in accordance with federal/state/local requirements. In the absence of these requirements, the procedure/protocols are based on current industry standards.

B. BACKGROUND INFORMATION

The roofing system has two layers of roofing materials. The old roofing layer is positive for asbestos content and is non-friable. Sampling of building materials has been performed by inspectors from the City's Asbestos, Lead & Mold Program (ALMP) and has been provided in Appendix C of this specification.

C. GENERAL INFORMATION

1. Potential Asbestos Hazard

The disturbance of asbestos containing materials may cause exposure to workers and building occupants. All workers, supervisory personnel, subcontractors, and consultants who will be at the job site, need to be apprised of the seriousness of the hazard and of proper work practices which must be followed to minimize exposure. The procedures and methods described herein

must be followed and the ABATEMENT CONTRACTOR must comply with all applicable federal/state/local requirements.

2. Stop Work

If the PROJECT MONITOR presents a verbal or written stop work order, the ABATEMENT CONTRACTOR shall immediately and automatically stop all work. Recommencement of the work may not begin until authorized by the PROJECT MONITOR.

D. PROJECT ADMINISTRATION

1. Certified Supervisor

The ABATEMENT CONTRACTOR needs to provide a full-time asbestos abatement supervisor who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This supervisor must have completed an "Asbestos Abatement Supervision" course. This person will act as the competent person on the job.

In addition, all employees working on the project must have taken an "Asbestos Abatement Worker" course.

2. Special Reports

a) Reporting Unusual Events

When an event of unusual and significant nature occurs at the site (e.g., a spill of asbestos debris, failure of special equipment used to contain asbestos), the ABATEMENT CONTRACTOR shall prepare and submit a special report listing the chain of events, persons participating, response by ABATEMENT CONTRACTOR's personnel, evaluation of results, and other pertinent information.

b) Reporting Accidents

The ABATEMENT CONTRACTOR shall prepare and submit reports of significant accidents at the subject site. Pertinent data and actions need to be recorded. In addition, response actions should comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury or potential environmental contamination.

3. Compliance with Codes and Regulations

a) Except to the extent that more explicit, or more stringent requirements are written directly into this Asbestos Abatement Contract/Specification, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

b) The ABATEMENT CONTRACTOR will assume full responsibility and liability for the compliance with all applicable federal/state/local regulations pertaining to work practices, protection of workers, and visitors to the site, persons occupying areas adjacent to the site, hauling, and disposal of waste. The ABATEMENT CONTRACTOR shall hold the City and its representative harmless for the ABATEMENT CONTRACTOR's failure to comply with any applicable work, hauling,

disposal, safety, health, or other regulation on the part of itself, its employees, or its SUB CONTRACTORS.

4. State requirements which govern asbestos abatement activities or hauling and disposal of hazardous waste include, but are not limited to, the following:

a) As required, ABATEMENT CONTRACTOR shall notify all Local, State, and Federal agencies regulating standards for the removal of asbestos-containing materials, including but not limited to: Cal-OSHA, San Diego Air Pollution Control District, and U.S. Environmental Protection Agency. ABATEMENT CONTRACTOR shall provide Owner a copy of each notification and a copy of a certified mail receipt proving proper notification to all required agencies.

b) ABATEMENT CONTRACTOR shall be registered as an asbestos contractor before performing any asbestos related work; a licensee must also be registered with the Department of Industrial Relations, Division of Occupational Safety and Health.

c) Transportation of hazardous materials shall be in accordance with the State of California Title 22 and the Department of Transportation regulations.

d) ABATEMENT CONTRACTOR shall comply with all provisions of California Title 8, Section 5208 and Section 1529.

e) ABATEMENT CONTRACTOR shall be in compliance with all provisions of Title 40 CFR Part 61.

f) ABATEMENT CONTRACTOR shall assume full responsibility and liability for compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to site, and persons occupying areas adjacent to the site.

E. PERMITS AND LICENSES

The ABATEMENT CONTRACTOR shall submit to the City in the bid submittal any permits or licenses necessary to carry out this work.

1. Permits

A valid Hazardous Waste Hauler registration is required for transporting any hazardous waste. Certain types of equipment require APCD permits (e.g., abrasive blasters).

2. Licenses

The ABATEMENT CONTRACTOR must be certified by the California Contractors State License Board. The ABATEMENT CONTRACTOR, or its subcontractor, shall have current licenses, as required by all applicable state or local jurisdictions for the removal, transportation, disposal, or other regulated activity relative to the work described in this plan.

F. HEALTH AND SAFETY

This section describes the equipment and procedures required for protecting workers from asbestos contamination and other workplace hazards.

1. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work.
2. Training
 - a) All workers are to be trained, certified and accredited as required by state or local code or regulation.
 - b) Train all workers, in accordance with Title 8 CCR section 5208 and section 1529, regarding the dangers inherent in handling asbestos and breathing asbestos dust, proper work procedures, and personal and area protective measures.
 - c) Provide medical examinations for all workers who may encounter an airborne fiber level of 0.1 fibers/cc or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber data, provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet requirements as set forth in Title 8 CCR 1529. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.
3. Protective clothing
 - a) Coveralls: Provide disposable "full body" coveralls and disposable head covers, and require that they be worn at all times by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.
 - b) Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protection for all workers. Provide boots at no cost to workers. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Thoroughly clean, decontaminate and bag boots before removing them from Work Area at the end of the work shift.
 - c) Hard Hats: Provide head protection (hard hats) as required by OSHA for all workers, and provide 1 spare for use by Owner's Representative, Project Administrator, and Owner. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of the type with plastic strap suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work shift.
 - d) Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work shift.
 - e) Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area. Dispose of gloves as asbestos-contaminated waste at the end of the work shift.
4. Respirators

- a) Air Purifying Respirators
 - (1) Respirator Bodies: Provide half-face or full-face type respirators based upon appropriate protection factor as determined by the ABATEMENT CONTRACTORS competent person. .
 - (2) Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.
 - (3) Non permitted respirators: Do not use single use, disposable or quarter face respirators.
 - (4) Require that respiratory protection be used at all times when there is any possibility of disturbance of asbestos containing materials whether intentional or accidental.
 - (5) Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re occupancy.
 - (6) Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be a half-face air purifying respirators with high efficiency filters.
 - b) Fit testing
 - (1) Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training. Only allow an individual to use respirators for which training and fit testing has been provided.
 - (2) Upon Each Wearing: Require that each time an air purifying respirator is put on it be checked for fit with a positive and negative pressure fit check in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).
 - c) Respirators, disposable coveralls, head covers, and foot covers shall be provided by the ABATEMENT CONTRACTOR for the City of San Diego's Asbestos and Lead Management Program's PROJECT MONITOR, and other authorized representatives who may inspect the job site. Provide six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.
- 5. Materials and Equipment
 - a) Only material and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards, may be used.
 - 6. Water Service

- a) The ABATEMENT CONTRACTOR will be able to obtain water services from on-site facilities. The City will designate the facilities from which water service may be obtained.
7. Electrical Services
 - a) The ABATEMENT CONTRACTOR will be able to obtain electrical services from on-site facilities. The City will designate the facilities from which electrical services may be obtained. The ABATEMENT CONTRACTOR shall provide their own electrical hook-ups, i.e. spider boxes, ground fault circuit interrupter (GFCI) etc. and installed by a licensed electrician.
 - b) The electrical services need to comply with the applicable NEMA, NECA, and UL standards, and governing regulations for materials and lay-out of temporary electrical services.
8. Sanitary Facilities
 - a) The ABATEMENT CONTRACTOR shall provide sanitary facilities on site, if none have been made available by the City.
9. Fire Extinguisher
 - a) Applicable recommendations of the National Fire Protection Association (NFPA) Standard 10, "Standard for Portable Fire Extinguishers," must be complied with by the ABATEMENT CONTRACTOR. Fire extinguishers need to be located where they are most convenient and effective for their intended purpose, but not less than one (1) extinguisher in each work area, the equipment room, outside/work areas, and in the clean room.
10. First Aid
 - a) The ABATEMENT CONTRACTOR will need to provide first aid supplies which should comply with the governing regulations and recognized recommendations within the construction industry.

G. WORK AREA PROCEDURES

1. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area.
2. ABATEMENT CONTRACTOR shall secure work area from access by public, staff or users of the area. Accomplish this where possible, by locking doors, gates, or other means of access to the area.
3. Barricade fencing is required for securing an outside area from unauthorized access. Work area delineation shall occur at no less than twelve feet (12') from the radius of the work and/or building. Yellow caution tape shall not be used.
4. All windows, vents, mechanical systems, etc., in close proximity to the abatement area shall be sealed with plastic and tape by the ABATEMENT CONTRACTOR prior to the work beginning.
5. View window as required by APCD Rule 1206 will be added where feasible when friable asbestos removal work is being performed under full containment.
6. Provide warning signs at entry to work area in accordance with California Title 8, Section 1529.

7. A visitor entry and exit-log, and an employee daily sign-in log shall be maintained throughout the asbestos abatement activities. The ABATEMENT CONTRACTOR shall be responsible for the project site security during the operations in order to protect work efforts and equipment.

H. REMOVAL OF ASBESTOS-CONTAINING MATERIALS

1. All asbestos-containing materials shall be adequately wetted with either amended water or a removal encapsulant before and during removal process, to reduce fiber emission.

2. The ABATEMENT CONTRACTOR should exercise caution in using water, as he will be solely responsible for any water damage to the facility resulting from the work.

3. ABATEMENT CONTRACTOR is responsible for keeping all asbestos containing debris within the containment area at all times throughout removal. Any interior contamination, if created, is the responsibility of the ABATEMENT CONTRACTOR to clean at no additional cost to the City.

4. ABATEMENT CONTRACTOR shall ensure there is no loose debris around the Work Area during the removal and if found, ABATEMENT CONTRACTOR shall clean the area immediately.

I. DISPOSAL

1. Both non-friable and friable ACM shall be containerized immediately, secured in a locked container, be transported by state licensed hauler with manifest, and disposed of at appropriate landfill location.

2. The PROJECT MONITOR or designated representative will inspect each load and sign all waste manifests before waste leaves the site.

3. Copies of Waste Shipment Records for each load of asbestos waste material shall be given to the City.

4. Cordon off the Work Area, a safe zone around the building, and the dumpster area with barrier fencing. Yellow caution tape shall not be used.

5. All non-friable waste shall be packaged in two layers of 6 mil poly sheeting with each layer sealed with ducting tape prior to transportation.

6. Provide warning signs at Work Area access in accordance with Title 8 CCR 1529.

J. DECONTAMINATION PROCEDURE (ROOFING)

1. Prior to leaving the Work Area, HEPA vacuum outer side of the suit, then completely remove the suit by turning it inside out while vacuuming.

2. After wiping all areas and respirator, remove respirator and wipe facial area clean.

3. Place contaminated suits, towels, and respirator cartridges in a properly labeled asbestos waste bag.

4. At the completion of the project, boots, hard hats, and goggles should be decontaminated and bagged prior to removal from the Work Area.

5. Equipment leaving the Work Area should be HEPA vacuumed and wet wiped.

K. AIR MONITORING/WORK AREA CLEARANCE

1. The City's PROJECT MONITOR will provide ambient area air monitoring during all phases of the removal of asbestos-containing materials, including the interior and/or exterior of the facility.
2. During the project, personal air monitoring will be conducted by ABATEMENT CONTRACTOR to determine exposure levels. If work area or personal exposure fiber levels exceed 0.05 fibers/cc, then work shall cease and not begin again until after PROJECT MONITOR approves the ABATEMENT CONTRACTOR's revised work methodology which will lower fiber levels. Changes in work procedures shall be submitted in writing to the City prior to implementing these procedures. At a minimum, ABATEMENT CONTRACTOR shall provide one air monitoring sample for every four workers (25%). The testing and analysis of air samples will be by Phase Contrast Microscopy following NIOSH 7400 rules.
3. If any of the ambient area samples taken by the PROJECT MONITOR either inside or outside exceed 0.01 fibers/cc then ABATEMENT CONTRACTOR is required to pay for the additional testing on those samples collected using transmission electron microscopy (TEM).
4. Release of the ABATEMENT CONTRACTOR from the asbestos-containing material removal phase of the contract will be determined by the PROJECT MONITOR based upon the results of visual inspection and/or clearance air sampling.

L. TRANSPORTATION AND DISPOSAL

1. Non-friable asbestos waste shall have a non-friable non-hazardous waste manifest accompany the waste to the waste facility accepting the asbestos containing waste. The Contractor will be responsible for all scheduling and waste disposal fees.
2. Any packaging used to ship hazardous waste off site such as a container, roll-off bin, tank or other device, must comply with 49 CFR Parts 173, 178, 179 and be labeled and prepared for transportation in accordance with Title 22 CCR Article 3. The hazardous waste label must be affixed and filled out when the first amount of hazardous waste is placed in the container. The label must include the initial accumulation date.
3. All additional pre-transportation labeling, marking or placarding must be conducted prior to transporting off site and in accordance with Title 22 CCR Chapter 12, Article 3.
4. All containers and tanks of hazardous waste must be managed in a way which minimizes the threat of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste to the air, soil or surface water which could threaten human health or the environment. Management techniques include containment areas capable of holding the contents of largest container within the containment area. Properly store and secure waste at all times. Do not leave hazardous waste in uncovered or unlocked trucks or dumpsters.
5. A hazardous waste manifest will be completed in accordance with Title 22 CCR Chapter 12, Article 2 for each shipment of hazardous waste leaving the work site. All waste shall leave the project site by the end of the project. Only The PROJECT MONITOR shall sign as the generator on manifests.

APPENDIX A

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME: _____ DATE: _____

PROJECT ADDRESS: _____

CONTRACTOR'S NAME: _____

Working with asbestos can be dangerous. Inhaling asbestos fibers has been linked with various types of cancer. If you smoke and inhale asbestos fibers the chance that you will develop lung cancer is greater than that of the non-smoking public.

Your employer's contract with the City for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

- Physical characteristics of asbestos
- Health hazards associated with asbestos
- Respiratory protection
- Use of protective equipment
- Pressure Differential Systems
- Work practices including hands on or on job training
- Personal decontamination procedures
- Air monitoring, personal and area

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x ray.

By signing this document you are acknowledging only that the City has advised you of your rights to training and protection relative to your employer, the ABATEMENT CONTRACTOR.

Signature: _____

Social Security No.: _____

Printed Name: _____

Witness (print): _____ Witness Signature: _____

APPENDIX B
CERTIFICATION OF VISUAL INSPECTION

Project#: _____ Date: _____ Location: _____

Contractor: _____

The contractor hereby certifies that he/she has visually inspected the Work Area (all surfaces including pipes, counters, ledges, walls, ceiling and floor, behind critical barriers, sheet plastic, etc.) and has found no dust, debris or residue.

By: (Signature): _____ Date: _____

(Print Name): _____

(Company Name): _____

(Print Title): _____

CITY ALMP REPRESENTATIVE

The City ALMP Representative hereby certifies that he has accompanied the contractor on his/her visual inspection and verifies that this inspection has been thorough and to the best of his/her knowledge and belief, the contractor's certification above is a true and honest one.

By: (Signature): _____ Date: _____

(Print Name): _____

WORK AREA

Location: _____

Room: _____

Hazard Reduction Performed: _____

APPENDIX C
SUMMARY OF ASBESTOS RESULTS

Sample #	Material	Estimated Quantity*	Location	Condition	Asbestos (%)
47195 -B-01 to 03	Roof Paper	100,000 SF	Facility 625 roof	Good	5-10% Chrysotile

*(Contractor to verify all quantities)

APPENDIX D
ASBESTOS INSPECTION REPORT

**LIMITED INSPECTION REPORT
ASBESTOS**

for

**AIR & SPACE MUSEUM - FACILITY #625
ROOFING PROJECT**

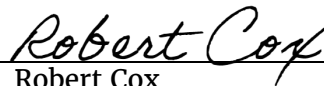
December 22, 2020

Prepared by:



Wm. Brad Blondet
Asbestos, Lead & Mold Program Inspector
CA CSST #99-2689
CDPH Lead S/IA/PM #1386/1387/1388

Reviewed by:



Robert Cox
Asbestos, Lead & Mold Program Supervisor
CA Asbestos Consultant #18-6345
CDPH Lead IA/PM #2243/2242

City of San Diego
Environmental Services Department
Disposal and Environmental Protection Division
Asbestos, Lead & Mold Program
9601 Ridgehaven Court, Ste. 310
San Diego, CA 92123
Tel: (858) 492-5086
Fax: (858) 492-5041

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1. Overview

An Inspector from the City of San Diego's Environmental Services Department, Asbestos, Lead and Mold Program (ALMP) performed a limited inspection of the Balboa Park Air and Space Museum (facility #625) located at 2001 Pan American Plaza, San Diego CA 92101, for asbestos, on December 16, 2020.

PROJECT OVERVIEW: The Air and Space Museum roof will be removed and replaced.

The ALMP Inspector that performed the inspection possesses a current State of California Division of Occupational Safety and Health (DOSH) Site Surveillance Technician credential, State of California Lead Inspector/Risk Assessor credential and has maintained his certificate for the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) Building Inspector course included in Attachment #3.

In the event, that asbestos containing materials are detected and may be impacted by the PROJECT, ALMP will provide the required abatement specification for the PROJECT to the requesting department. The contractor is to verify locations, quantities and condition of all asbestos containing material (ACM) and lead before work begins.

2. Laboratory Information

The City of San Diego contracts with the laboratories that are listed below. All samples collected as part of this inspection were submitted to and analyzed by either:

HM Pitt Labs, Inc.,
4901 Morena Blvd., Suite 203
San Diego, CA 92117
(619) 474-8548

LA Testing
520 Mission St.
Pasadena, CA 91030
(323)-254-9960

HM Pitt Labs, Inc. and LA Testing maintain accreditations for asbestos analysis under the National Voluntary Laboratory Accreditation Program (NVLAP) and the California Department of Public Health Service's Environmental Laboratory Accreditation Program (ELAP). Asbestos content analysis was conducted in accordance with methods specified in Appendix E, Subpart E, 40 CFR 763- "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020 Dec. 1982) as Modified by "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116 July 1993).

3. Summary of Asbestos Containing Materials (ACM)

This inspection was conducted to identify any asbestos containing material that may be impacted as part of this PROJECT. The summary table below lists the ACM found in each building along with estimated quantities, concentrations, locations and material condition. A complete list of the materials that have been tested for asbestos and the results are included in Attachment #1.

Due to the non-destructive nature of the inspection materials within interstitial spaces such as wall cavities, pipe chases and above ceilings may not have been tested. If suspect materials are encountered during PROJECT activities and are not listed in Attachment #1 of this report, work must stop immediately and the ALMP contacted so additional testing can be performed.

Location	Material	Estimated Quantities	Condition	Asbestos (%)
2001 Pan American Plaza	Roof cores (Two Layers)	100,000 SF	Good	5-10% Chrysotile

4. Attachments

1. Asbestos Sample Logs and Laboratory Reports
2. Inspector Certifications
3. Site Diagram

Attachment # 1

ASBESTOS SAMPLE LOGS & LABORATORY REPORTS



H.M. Pitt Labs, Inc.

9590 Chesapeake Dr · Ste 5 · San Diego, CA 92123

Lab Number: 175421-248996

Tel: 619-474-8548 · Fax: 858-412-3305

Company:

City of San Diego Environmental Services
Department
9601 Ridgehaven Court, Suite 310
San Diego, CA 92123

Date Entered: 12/16/2020**Analyzed By:** Tisha Melville**Date Analyzed:** 12/18/20**Customer PO / Claim#:****Contract Number:****Job Site:** Project #47195**Date Sampled****Who Sampled**

12/16/2020

Brad Blondet

Lab Notes: 2 HRTAT

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT - EPA-600/R-93/116 AND EPA-600/M4-82-020

Analysis Number: 175421-1**Customer Number:** 01**Classification:****Description:** Center Core, Silver Paint**Results:**

A: Non-Asbestos: Non-Fibrous Silver Paint
B: Non-Asbestos: 50% Synthetic Fibers & 10% Cellulose Fibers in Black Roofing Material (Homogenous, Inseparable Layers)
C: Asbestos: 5% Chrysotile in Black Roofing Material (25% Cellulose Fibers Were Also Present) (It is the policy of this lab to stop performing analysis of roofing at the first positive layer.)(Homogenous, Inseparable Layers)

Analysis Number: 175421-2**Customer Number:** 02**Classification:****Description:** West Core, Silver Paint**Results:**

A: Non-Asbestos: Non-Fibrous Silver Paint
B: Non-Asbestos: Non-Fibrous Black Roofing Material
C: Asbestos: 10% Chrysotile in Silver Paint (It is the policy of this lab to stop performing analysis of roofing at the first positive layer.)

Analysis Number: 175421-3**Customer Number:** 03**Classification:****Description:** East Core, Silver Paint**Results:**

A: Non-Asbestos: Non-Fibrous Silver Paint
B: Non-Asbestos: 50% Synthetic Fibers in Black Roofing Material
C: Non-Asbestos: 50% Synthetic Fibers in Black Roofing Material
D: Asbestos: 5% Chrysotile in Black Roofing Material (It Is The Policy Of This Lab To Stop Performing Analysis Of Roofing At The First Positive Layer.)

-
- 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 90 days 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: 12/18/2020**REVIEWED BY:**

Lee Pitt

Page 1 of 3



H.M. Pitt Labs, Inc.

9590 Chesapeake Dr · Ste 5 · San Diego, CA 92123

Lab Number: 175421-248996

Tel: 619-474-8548 · Fax: 858-412-3305

Company:

City of San Diego Environmental Services
Department
9601 Ridgehaven Court, Suite 310
San Diego, CA 92123

Date Entered: 12/16/2020**Analyzed By:** Tisha Melville**Date Analyzed:** 12/18/20**Customer PO / Claim#:****Contract Number:****Job Site:** Project #47195**Date Sampled****Who Sampled**

12/16/2020

Brad Blondet

Lab Notes: 2 HRTAT

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT - EPA-600/R-93/116 AND EPA-600/M4-82-020

Analysis Number: 175421-4**Customer Number:** 04**Classification:****Description:** Penetration Mastic, Pipe**Results:** Non-Asbestos: 25% Cellulose Fibers in Black/Silver Penetration Mastic**Analysis Number:** 175421-5**Customer Number:** 05**Classification:****Description:** Penetration Mastic, Curb**Results:** Non-Asbestos: 25% Cellulose Fibers in Black/Silver Penetration Mastic**Analysis Number:** 175421-6**Customer Number:** 06**Classification:****Description:** Penetration Mastic, Vent Base**Results:** Non-Asbestos: 25% Cellulose Fibers in Black/Silver Penetration Mastic**Analysis Number:** 175421-7**Customer Number:** 07**Classification:****Description:** Pitch Pot Mastic, Outer**Results:** Non-Asbestos: Non-Fibrous Black/Silver Penetration Mastic

-
- 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 90 days 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: 12/18/2020**REVIEWED BY:**

Lee Pitt



H.M. Pitt Labs, Inc.

9590 Chesapeake Dr · Ste 5 · San Diego, CA 92123

Lab Number: 175421-248996

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Company:

City of San Diego Environmental Services
Department
9601 Ridgehaven Court, Suite 310
San Diego, CA 92123

Date Entered: 12/16/2020**Analyzed By:** Tisha Melville**Date Analyzed:** 12/18/20**Customer PO / Claim#:****Contract Number:****Job Site:** Project #47195**Date Sampled****Who Sampled**

12/16/2020

Brad Blondet

Lab Notes: 2 HRTAT

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT - EPA-600/R-93/116 AND EPA-600/M4-82-020

Analysis Number: 175421-8**Customer Number:** 08**Classification:****Description:** Pitch Pot Mastic, Inner**Results:** Non-Asbestos: 10% Cellulose Fibers in Black/Silver Penetration Mastic**Analysis Number:** 175421-9**Customer Number:** 09**Classification:****Description:** Pitch Pot Mastic, Inner**Results:** Non-Asbestos: Non-Fibrous Black/Silver Penetration Mastic

-
- 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 90 days 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: 12/18/2020**REVIEWED BY:**

Lee Pitt

Attachment # 2

INSPECTOR CERTIFICATIONS

Certificate of Training

This is to certify that

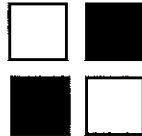
William Blondet

has successfully completed 4 hours of formal training entitled

AHERA Building Inspector Refresher

as approved by the California Division of Occupational Safety and Health
and as certified by the Environmental Protection Agency and approved by AHERA under TSCA Title II

Presented by



Design For Health Training Center

2667 Camino del Rio South, Suite 207

San Diego, CA 92108

Phone: (619) 291-1777 Fax: (619) 291-4318

dfhtcsd@gmail.com

www.designforhealthtrainingcenter.com

Jorge A.
Valdez

Digitally signed by
Jorge A. Valdez
Date: 2020.09.18
15:27:13 -07'00'

By: _____

Jorge A Valdez, B.S.
Director of Training

DOSH Approval #011-06
Certificate # 0920BIR187960
Course Date(s) 09/18/2020
Exam Date: N/A

This is an annual certification. It must be renewed by: 09/18/2021

State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician

William Bradley Blondet



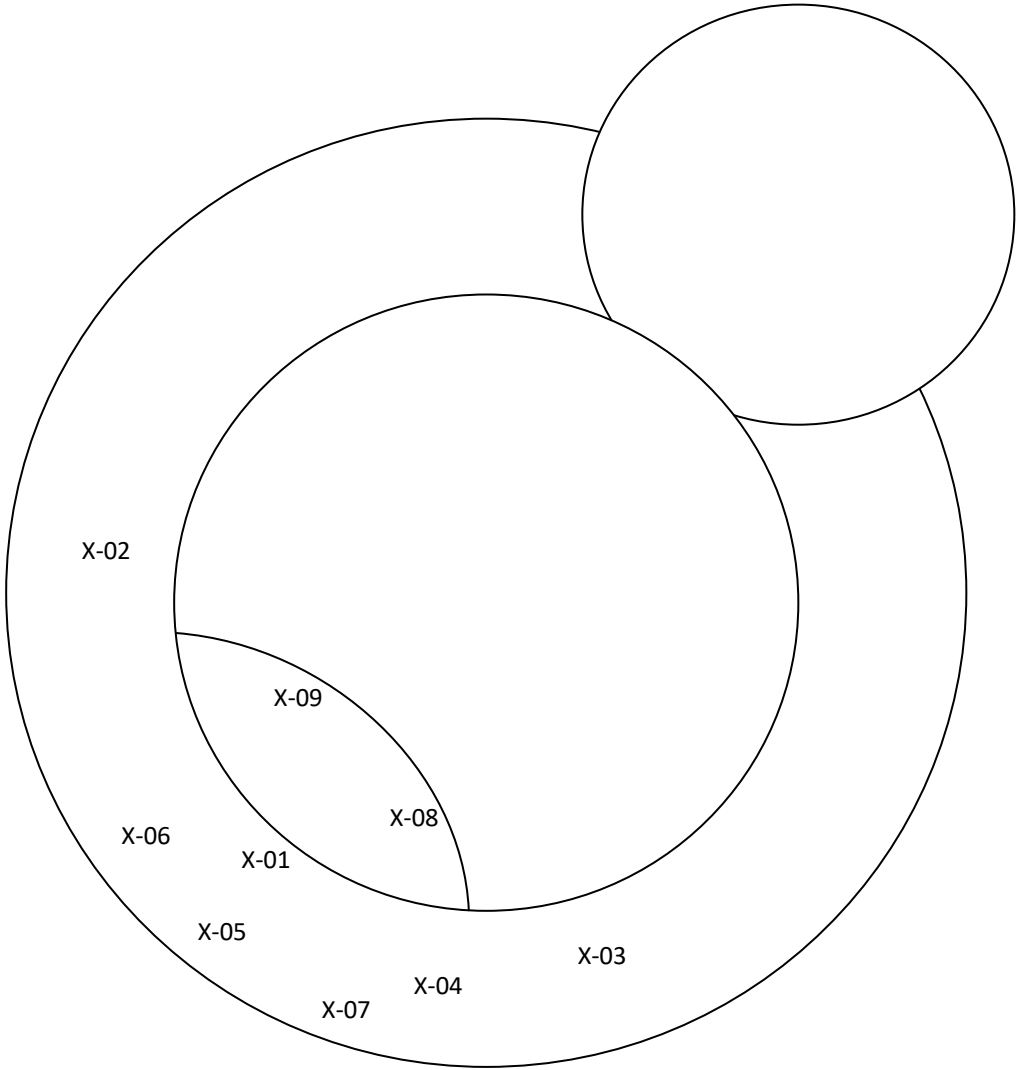
Name

Certification No. 99-2689

Expires on 12/10/21

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Attachment # 3
SITE DIAGRAM



Balboa Park Air & Space Museum, 2001 Pan
American Plaza., San Diego CA, 92101

**CITY of SAN DIEGO
WORK REQUEST FOR ASBESTOS, LEAD & MOLD PROGRAM**

Department Engineering & Capital Projects Dept.# _____ Division Architectural Engineering & Parks
 Work Requested By Jose Castaneyra MS# 908A Phone 619-533-6671
 Facility # 625 Facility Name/Address Air & Space Museum / 2001 Pan American Plaza, Balboa Park
1934
 Year of Construction: _____ Plans Attached? YES NO Target Start: June 27, 2022

Provide a description and location of the activities you plan on conducting:

This project provides for the replacement of the Air & Space Museum of the Main Lower roof level, and Repair of the Upper roof level. We would like to request testing for lead paint for the additional scope described below.


In Addition to the original scope, the project also provides for the following:

- Replacement of the fluorescent lights behind the columns. Electrical evaluation will be required for the new lighting for code compliance.
- Repair cracks on the façade, all wall surfaces including parapet walls and other areas required.
- Painting the exterior of the building

Open Internal Order or WBS# to ALMP for labor cost. ALMP Business Area 2115; Fund 100000; Revenue Acct 424071. The following accounting numbers are for laboratory, abatement, and/or other NPE. Request estimate if needed.

Accounting Numbers: 1714141216 400002 B-20116
 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  **Title** Assistant Engineer - Civil **Date** 06/21/2022
eSigned via SeamlessDocs.com
Key: 349ed47d4c0d8aeb16a4a79222ccc162
Print Name Jose Castaneyra **Div. Analyst Name** Patricia Soria

FOR OFFICE USE ONLY

Date Received 6/21/2022 Inspector Brad Blondet

Records/Inspection Information The roofing survey report and specification was provided in 2022.

The need for stucco removal prompted more testing of the materials. The blue exterior paint tested positive for lead. The stucco scratch coating has trace amounts of asbestos and will require the contractor to protect the workers. The light bulb tubes and starter ballasts will need special handling and disposal.

Impact on Project Asbestos and lead specifications are attached for the stucco removal work. Our as-needed abatement contractor may be used for this project and a PO will need to be created before they can be scheduled. Please provide ALMP with the current billing you wish to use and we will create the PO.

A copy of the asbestos, lead, and universal waste report dated 6/5/23 will need to be at the jobsite.

 6/12/23  for 6/15/2023
 ASBESTOS, LEAD & MOLD PROGRAM INSPECTOR DATE ASBESTOS, LEAD & MOLD PROGRAM MANAGER DATE

Asbestos, Lead & Mold Program

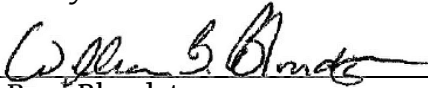
**REVISED LIMITED INSPECTION REPORT
ASBESTOS, LEAD, AND UNIVERSAL WASTE**

for

**AIR & SPACE MUSEUM - FACILITY #625/F0252
EXTERIOR PAINT, STUCCO, AND LIGHT REMOVAL**

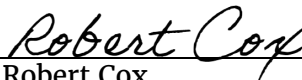
(Revised) *June 5, 2023*

Prepared by:



Wm. Brad Blondet
Asbestos, Lead & Mold Program Inspector
CA CSST #99-2689
CDPH Lead S/IA/PM #1386/1387/1388

Reviewed by:



Robert Cox
Asbestos, Lead & Mold Program Supervisor
CA Asbestos Consultant #18-6345
CDPH Lead IA/PM #2243/2242

City of San Diego
Environmental Services Department
Disposal and Environmental Protection Division
Asbestos, Lead & Mold Program
9601 Ridgehaven Court, Ste. 310
San Diego, CA 92123
Tel: (858) 492-5086
Fax: (858) 492-5041

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1. Overview

An Inspector from the City of San Diego's Environmental Services Department, Asbestos, Lead and Mold Program (ALMP) performed a limited inspection of the Air & Space Museum (facility #625/F0252) located at 2001 Pan American Plaza, San Diego CA 92101 for asbestos, lead, and universal wastes on June 23, 2022, and again on June 2, 2023.

PROJECT OVERVIEW: The exterior paint and stucco will be disturbed to investigate and repair structural components. The lights will be removed and replaced.

The ALMP Inspector that performed the inspection possesses a current State of California Division of Occupational Safety and Health (DOSH) Site Surveillance Technician credential, State of California Lead Inspector/Risk Assessor credential and has maintained his certificate for the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) Building Inspector course included in Attachment #3.

In the event, that asbestos or lead containing materials are detected and may be impacted by the PROJECT, ALMP will provide the required abatement specification for the PROJECT to the requesting department. The contractor is to verify locations, quantities and condition of all asbestos containing material (ACM) and lead before work begins.

2. Laboratory Information

The City of San Diego contracts with the laboratories that are listed below. All samples collected as part of this inspection were submitted to and analyzed by:

EMSL Analytical, Inc.,
8145 Ronson Rd., Suite B
San Diego, CA 92111
(858) 499-1303

EMSL Analytical, Inc. maintains accreditation for asbestos analysis under the National Voluntary Laboratory Accreditation Program (NVLAP) and the California Department of Public Health Service's Environmental Laboratory Accreditation Program (ELAP). Asbestos content analysis was conducted in accordance with methods specified in Appendix E, Subpart E, 40 CFR 763- "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" (EPA-600/M4-82-020 Dec. 1982) as Modified by "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116 July 1993).

3. Summary of Asbestos Containing Materials (ACM)

This inspection was conducted to identify any asbestos containing material that may be impacted as part of this PROJECT. The summary table below lists the ACM found in each building along with estimated quantities, concentrations, locations, and material condition. A complete list of the materials that have been tested for asbestos and the results are included in Attachment #1.

Due to the non-destructive nature of the inspection materials within interstitial spaces such as wall cavities, pipe chases and above ceilings may not have been tested. If suspect materials are encountered during PROJECT activities and are not listed in Attachment #1 of this report, work must stop immediately and the ALMP contacted so additional testing can

be performed.

Location	Material	Estimated Quantities	Condition	Asbestos (%)
2001 Pan American Plaza	Stucco skim coat	81,000 SF	Good	<1% Chrysotile

4. Summary of Lead Paint

Paint containing lead in excess of 1.0 mg/cm² or 5,000 mg/kg is considered lead-based paint. The City of San Diego's Lead Hazard Control Ordinance requires the use of Lead Safe Work Practices when disturbing paint that contains above 0.5 mg/cm² or 1,000 mg/kg lead.

The paint on the facility is currently in fair to poor condition overall. The paint on the metal light covers is in fair condition, but the metal light covers have flaking paint where there is rust.

The summary below lists the areas of paint with greater than 0.5 mg/cm² or 1,000 mg/kg lead. A complete list of components tested for lead can be found in Attachment #2 of this report.

Address	Location	Components	Condition	Results
2001 Pan American Plaza	Exterior	Blue paint	Fair	7.6 mg/cm ²

5. Summary of Universal Waste

Fluorescent light tubes
Starter ballasts

6. Attachments

1. Asbestos Sample Logs and Laboratory Reports
2. Lead XRF Readings
3. Inspector Certifications
4. Site Diagram
5. CDPH 8552

Attachment # 1

ASBESTOS SAMPLE LOGS & LABORATORY REPORTS



EMSL Analytical, Inc.

8145 Ronson Road, Suite B San Diego, CA 92111

Tel/Fax: (858) 499-1303 / (858) 499-1304

<http://www.EMSL.com> / sandiegolab@emsl.com

EMSL Order: 432205225

Customer ID: SAND52

Customer PO:

Project ID:

Attention: W. BRAD BLONDET
City of San Diego
Environmental Svcs Dept/ES & EP Division
9601 Ridgehaven Court, Suite 310
San Diego, CA 92123

Phone:
Fax: (858) 492-5089

Received Date: 06/23/2022 1:00 PM
Analysis Date: 06/24/2022 - 06/27/2022
Collected Date: 06/23/2022

Project: 64233

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
64233-B-01-Finish Coat <small>432205225-0001</small>	S SIDE STUCCO & PAPER	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-01-Base Coat 1 <small>432205225-0001A</small> <i>Dark gray.</i>	S SIDE STUCCO & PAPER	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-01-Base Coat 2 <small>432205225-0001B</small> <i>Light gray.</i>	S SIDE STUCCO & PAPER	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-01-Paper <small>432205225-0001C</small>	S SIDE STUCCO & PAPER	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
64233-B-02-Finish Coat <small>432205225-0002</small>	E SIDE STUCCO & PAPER	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-02-Base Coat <small>432205225-0002A</small>	E SIDE STUCCO & PAPER	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-02-Paper <small>432205225-0002B</small>	E SIDE STUCCO & PAPER	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
64233-B-03-Finish Coat <small>432205225-0003</small>	E SIDE STUCCO & PAPER	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-03-Base Coat <small>432205225-0003A</small>	E SIDE STUCCO & PAPER	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-03-Paper <small>432205225-0003B</small>	E SIDE STUCCO & PAPER	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
64233-B-04-Finish Coat <small>432205225-0004</small>	N SIDE STUCCO & PAPER	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
64233-B-04-Base Coat <small>432205225-0004A</small>	N SIDE STUCCO & PAPER	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-04-Paper <small>432205225-0004B</small>	N SIDE STUCCO & PAPER	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected

Initial report from: 06/27/2022 15:50:46



EMSL Analytical, Inc.

8145 Ronson Road, Suite B San Diego, CA 92111

Tel/Fax: (858) 499-1303 / (858) 499-1304

<http://www.EMSL.com> / sandiegolab@emsl.com

EMSL Order: 432205225
Customer ID: SAND52
Customer PO:
Project ID:

Analyst(s)

 Eric Sun (7)
 Joseph Gutierrez (6)



 Riva Alger, Laboratory Manager
 or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. San Diego, CA NVLAP Lab Code 200855-0, CA ELAP 2713, HI L-09-03

Initial report from: 06/27/2022 15:50:46

Project # 64233 Sampled by: Wm. Brad Blondet Sampled Date: 06/23/2022 Page 1 of 1

Laboratory: <u>EMSL</u>	Turnaround Time: <input type="checkbox"/> 2 HOUR <input type="checkbox"/> 24 HOUR <input checked="" type="checkbox"/> 48 HOUR <input type="checkbox"/> 72 HOUR <input type="checkbox"/> 5 DAY <input type="checkbox"/> OTHER: _____
----------------------------	--

The receiving Laboratory is required to complete the following:

- All Invoices are to be sent to: ALMP@SanDiego.gov or City of San Diego, ESD, ALMP, 9601 Ridgehaven Court, Suite 310 San Diego, CA 92123
- Lab reports/invoices are to contain the Project Number listed above. Do not include Purchase Order Numbers on Invoices
- Email report to: WBlondet@sandiego.gov

Lab Number	Sample No.	*Type of Sampling	Location/Material	Media	Time On	Time Off	Flow _{int} (LPM)	Flow _{final} (LPM)	Flow _{avg} (LPM)	Volume/Area	*Type of Sampling:	
											In Work Area (IWA) Risk Assessment (RA)	Outside Work Area (OWA) Neg. Air Exhaust (NAE)
Sample # Prefix: 64233	-B-01	S	South Side Stucco and Paper	Bulk								PLM
	-B-02	S	East Side Stucco and Paper	Bulk								PLM
	-B-03	S	East Side Stucco and Paper	Bulk								PLM
	-B-04	S	North Side Stucco and Paper	Bulk								PLM
		Page 1 Of 1										

NOTES: _____

Relinquished by (Print name): <u>Wm. Brad Blondet</u> Signature: <u>[Signature]</u> Date/Time: <u>6/23/2022 12:45 pm</u>	Relinquished by (Print name): _____ Signature: _____ Date/Time: _____
Relinquished by (Print name): <u>Haylee Tilton</u> Signature: <u>[Signature]</u> Date/Time: <u>6/23/22 1:50 pm</u>	Relinquished by (Print name): _____ Signature: _____ Date/Time: _____



EMSL Analytical, Inc.

8145 Ronson Road, Suite B San Diego, CA 92111

Tel/Fax: (858) 499-1303 / (858) 499-1304

<http://www.EMSL.com> / sandiegolab@emsl.com

EMSL Order: 432306508
Customer ID: SAND52
Customer PO:
Project ID:

Attention: W. BRAD BLONDET City of San Diego Environmental Svcs Dept/ES & EP Division 9601 Ridgehaven Court, Suite 310 San Diego, CA 92123	Phone: Fax: (858) 492-5089 Received Date: 06/02/2023 10:00 AM Analysis Date: 06/02/2023 Collected Date:
Project: 64233	

**Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E
Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
64233-B-05 <small>432306508-0001</small>	EXTERIOR / SKIMCOATING	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
64233-B-06 <small>432306508-0002</small>	EXTERIOR / SKIMCOATING	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
64233-B-07 <small>432306508-0003</small>	EXTERIOR / SKIMCOATING	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
64233-B-08 <small>432306508-0004</small>	EXTERIOR / SKIMCOATING	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s) _____
Alina Hernandez (2)
Joseph Gutierrez (2)


Riva Alger, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. San Diego, CA NVLAP Lab Code 200855-0, CA ELAP 2713, HI L-09-03

Initial report from: 06/02/2023 15:36:06

Project # 64233 Sampled by: Wm. Brad Blondet Sampled Date: 6/2/23 Page 1 of 1

Laboratory: <u>EMSL</u>	Turnaround Time: <input type="checkbox"/> 2 HOUR <input type="checkbox"/> 24 HOUR <input type="checkbox"/> 48 HOUR <input type="checkbox"/> 72 HOUR <input type="checkbox"/> 5 DAY <input checked="" type="checkbox"/> OTHER: <u>3 hr TAT</u>
----------------------------	--

The receiving Laboratory is required to complete the following:

- All Invoices are to be sent to: ALMP@SanDiego.gov or City of San Diego, ESD, ALMP, 9601 Ridgehaven Court, Suite 310 San Diego, CA 92123
- Lab reports/invoices are to contain the Project Number listed above. Do not include Purchase Order Numbers on Invoices
- Email report to: WBlondet@sanDiego.gov

Lab Number	Sample No.	*Type of Sampling	Location/Material	Media	Time On	Time Off	Flow _{int} (LPM)	Flow _{final} (LPM)	Flow _{avg} (LPM)	Volume/Area	Analyses Requested	*Type of Sampling:	In Work Area (IWA) Risk Assessment (RA)	Outside Work Area (OWA) Neg. Air Exhaust (NAE)	Clearance (C) Survey (S)	Baseline (B) Waste Characterization (WC)
	B-05	S	Exterior/Skim coating	Bulk							PLM					
	B-06	↓	↓ / ↓	↓							↓					
	B-07	↓	↓ / ↓	↓							↓					
	B-08	↓	↓ / ↓	↓							↓					

NOTES: _____

Received →

Relinquished by (Print name): <u>Wm. Brad Blondet</u> Signature: <u>William B. Blondet</u> Date/Time: <u>6/2/2023 9:07 am</u>	Relinquished by (Print name): _____ Signature: _____ Date/Time: _____
Relinquished by (Print name): <u>Barrett Smith</u> Signature: <u>[Signature]</u> Date/Time: <u>6/2/23 10:00 AM</u>	Relinquished by (Print name): _____ Signature: _____ Date/Time: _____

Attachment # 2

LEAD XRF RESULTS

ALMP XRF RESULTS

Air Space Museum, 2001 Pan American Plaza, San Diego CA 92101



Reading No	Time	MODE	LOCAT.	ROOM	SIDE	COMPONENT	COND.	SUBST.	COLOR	Results	PbC	Units
1	6/23/2022 8:17										3.11	cps
2	6/23/2022 8:18	K & L				CALIB. CHECK				Negative	0.8	mg / cm ^2
3	6/23/2022 8:19	K & L				CALIB. CHECK				Negative	0.8	mg / cm ^2
4	6/23/2022 8:21	K & L				CALIB. CHECK				Negative	0.9	mg / cm ^2
5	6/23/2022 8:24	Std.	AS MUSEUM	EXTERIOR	A	DOOR	INTACT	METAL	BLUE	Negative	0	mg / cm ^2
6	6/23/2022 8:24	Std.	AS MUSEUM	EXTERIOR	A	DOOR FRAME	INTACT	METAL	BLUE	Negative	0	mg / cm ^2
7	6/23/2022 8:25	Std.	AS MUSEUM	EXTERIOR	A	DOOR FRAME	INTACT	METAL	WHITE	Negative	0.01	mg / cm ^2
8	6/23/2022 8:26	Std.	AS MUSEUM	EXTERIOR	A	DOOR	INTACT	METAL	WHITE	Negative	0	mg / cm ^2
9	6/23/2022 8:26	Std.	AS MUSEUM	EXTERIOR	A	WALL	INTACT	STUCCO	WHITE	Negative	0	mg / cm ^2
10	6/23/2022 8:27	Std.	AS MUSEUM	EXTERIOR	A	WALL	INTACT	STUCCO	WHITE	Negative	0	mg / cm ^2
11	6/23/2022 8:27	Std.	AS MUSEUM	EXTERIOR	A	WALL	INTACT	STUCCO	WHITE	Negative	0	mg / cm ^2
12	6/23/2022 8:28	Std.	AS MUSEUM	EXTERIOR	A	VENT	POOR	METAL	WHITE	Negative	< LOD	mg / cm ^2
13	6/23/2022 8:28	Std.	AS MUSEUM	EXTERIOR	A	VENT	POOR	METAL	WHITE	Negative	< LOD	mg / cm ^2
14	6/23/2022 8:29	Std.	AS MUSEUM	EXTERIOR	A	GAS PIPE	INTACT	METAL	GRAY	Negative	0.2	mg / cm ^2
15	6/23/2022 8:30	Std.	AS MUSEUM	EXTERIOR	A	BALLARD	INTACT	METAL	YELLOW	Negative	0	mg / cm ^2
16	6/23/2022 8:32	Std.	AS MUSEUM	EXTERIOR	B	WALL	INTACT	STUCCO	WHITE	Negative	0	mg / cm ^2
17	6/23/2022 8:33	Std.	AS MUSEUM	EXTERIOR	B	WALL	INTACT	STUCCO	WHITE	Negative	0	mg / cm ^2
18	6/23/2022 8:33	Std.	AS MUSEUM	EXTERIOR	B	WALL	INTACT	STUCCO	WHITE	Negative	0	mg / cm ^2
19	6/23/2022 8:34	Std.	AS MUSEUM	EXTERIOR	B	DOOR	INTACT	METAL	BLUE	Negative	0.03	mg / cm ^2
20	6/23/2022 8:34	Std.	AS MUSEUM	EXTERIOR	B	DOOR FRAME	INTACT	METAL	BLUE	Negative	0.03	mg / cm ^2
21	6/23/2022 8:36	Std.	AS MUSEUM	EXTERIOR	B	DOOR FRAME	FAIR	METAL	WHITE	Negative	0	mg / cm ^2
22	6/23/2022 8:36	Std.	AS MUSEUM	EXTERIOR	B	DOOR	FAIR	METAL	WHITE	Negative	0	mg / cm ^2
23	6/23/2022 8:37	Std.	AS MUSEUM	EXTERIOR	B	VENT	POOR	METAL	WHITE	Negative	0.02	mg / cm ^2
24	6/23/2022 8:39	Std.	AS MUSEUM	EXTERIOR	C	WALL	FAIR	METAL	TAN	Negative	0.01	mg / cm ^2
25	6/23/2022 8:41	Std.	AS MUSEUM	EXTERIOR	C	WALL	FAIR	METAL	TAN	Negative	0	mg / cm ^2
26	6/23/2022 8:42	Std.	AS MUSEUM	EXTERIOR	C	WALL	FAIR	METAL	TAN	Negative	0	mg / cm ^2
27	6/23/2022 8:43	Std.	AS MUSEUM	EXTERIOR	C	DOOR	FAIR	METAL	TAN	Negative	0	mg / cm ^2
28	6/23/2022 8:43	Std.	AS MUSEUM	EXTERIOR	C	DOOR FRAME	POOR	WOOD	TAN	Negative	0	mg / cm ^2
29	6/23/2022 8:43	Std.	AS MUSEUM	EXTERIOR	C	DOOR FRAME	POOR	WOOD	TAN	Negative	0	mg / cm ^2

Inspector: William Blondet

CDPH I/A #1387

XRF Serial #7902

ALMP XRF RESULTS

Air Space Museum, 2001 Pan American Plaza, San Diego CA 92101



30	6/23/2022 8:45	Std.	AS MUSEUM	EXTERIOR	D	COLUMN LIGHTS	FAIR	METAL	BLUE	Positive	5.9	mg / cm ^2
31	6/23/2022 8:46	Std.	AS MUSEUM	EXTERIOR	D	COLUMN LIGHTS	FAIR	METAL	BLUE	Positive	7.6	mg / cm ^2
32	6/23/2022 8:46	Std.	AS MUSEUM	EXTERIOR	D	COLUMN LIGHTS	FAIR	METAL	BLUE	Positive	5.5	mg / cm ^2
33	6/23/2022 8:48	Std.	AS MUSEUM	EXTERIOR	D	WALL	FAIR	STUCCO	TAN	Negative	0.25	mg / cm ^2
34	6/23/2022 8:48	Std.	AS MUSEUM	EXTERIOR	D	WALL	FAIR	STUCCO	TAN	Negative	0	mg / cm ^2
35	6/23/2022 8:48	Std.	AS MUSEUM	EXTERIOR	D	WALL	FAIR	STUCCO	TAN	Negative	0.1	mg / cm ^2
36	6/23/2022 8:50	Std.	AS MUSEUM	EXTERIOR	D ENTRY	WALL	INTACT	STUCCO	BLUE	Null	1	mg / cm ^2
37	6/23/2022 8:53	Std.	AS MUSEUM	EXTERIOR	D	DOOR	INTACT	METAL	WHITE	Negative	0.01	mg / cm ^2
38	6/23/2022 8:53	Std.	AS MUSEUM	EXTERIOR	D	DOOR	INTACT	METAL	WHITE	Negative	0	mg / cm ^2
39	6/23/2022 8:54	Std.	AS MUSEUM	EXTERIOR	D	DOOR FRAME	INTACT	METAL	WHITE	Negative	0	mg / cm ^2
40	6/23/2022 8:56	K & L				CALIB. CHECK				Negative	0.8	mg / cm ^2
41	6/23/2022 8:57	K & L				CALIB. CHECK				Negative	0.8	mg / cm ^2
42	6/23/2022 8:58	K & L				CALIB. CHECK				Negative	0.8	mg / cm ^2

Inspector: William Blondet

CDPH I/A #1387

XRF Serial #7902

Attachment # 3

INSPECTOR CERTIFICATIONS

Certificate of Training

This is to certify that

William Blondet

Has successfully completed 4 hours of formal training entitled

AHERA Building Inspector Refresher

as approved by the California Division of Occupational Safety and Health and as certified by the Environmental Protection Agency and approved by AHERA under TSCA Title II

Presented by:



Design For Health Training Center

2667 Camino del Rio South, Suite 207

San Diego, CA 92108

Phone: (619) 291-1777 Fax: (619) 291-4318

Jorge A. Valdez

Digitally signed by Jorge A.

Valdez

Date: 2021.09.17 16:35:31 -07'00'

By: _____

Jorge A Valdez, B.S.
Director of Training

DOSH Approval #011-06
Certificate # 0921BIR189496
Course Date (s): 09/17/2021
Exam Date: NA

This is an annual certification. It must be renewed by : 09/17/2022

State of California
Division of Occupational Safety and Health
Certified Site Surveillance Technician

William Bradley Blondet

Name

Certification No. 99-2689

Expires on 12/10/22



This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.



LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:



William Blondet

CERTIFICATE TYPE:

Lead Inspector/Assessor
Lead Project Monitor
Lead Supervisor

NUMBER:

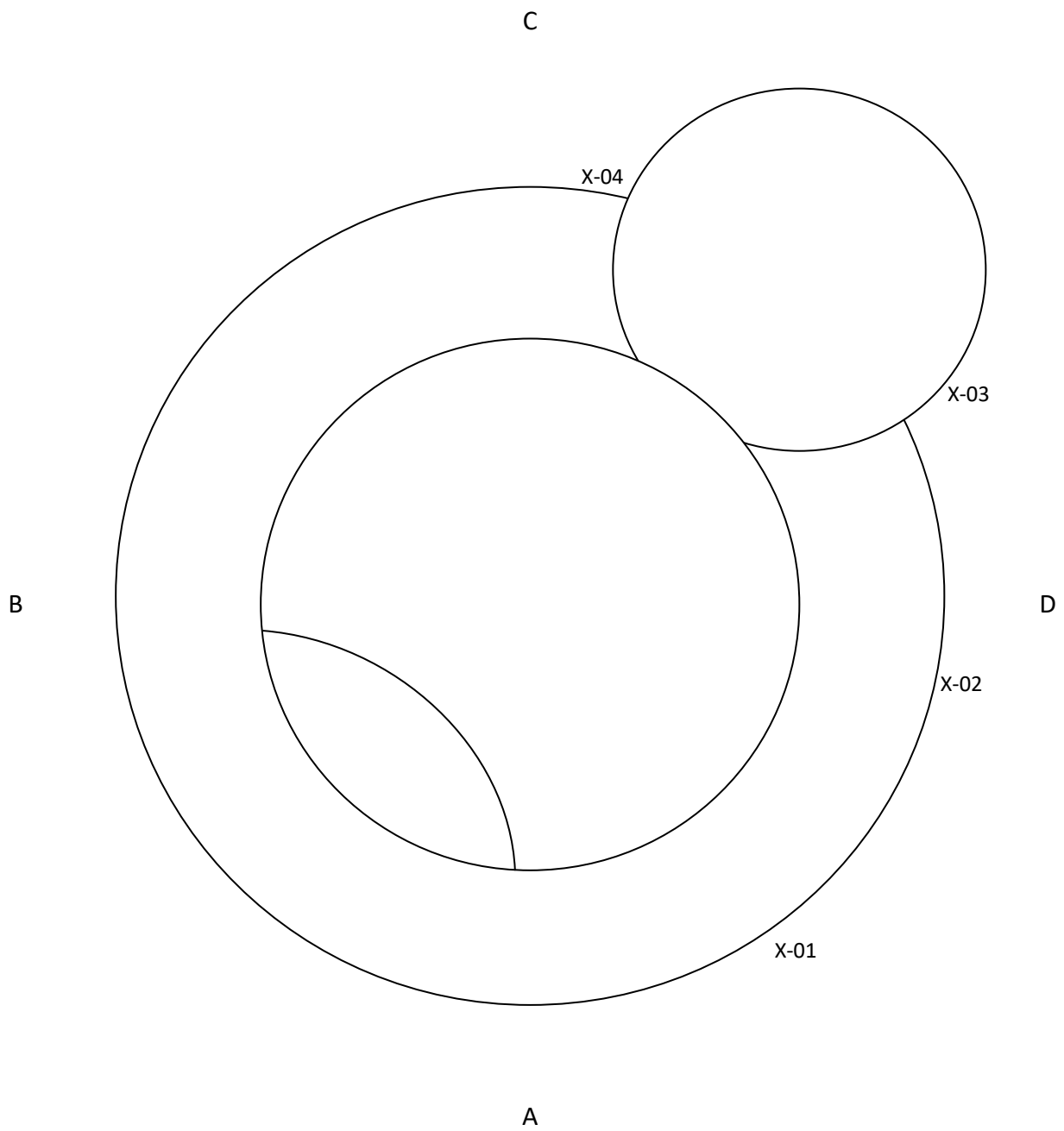
LRC-00001387
LRC-00001388
LRC-00001386

EXPIRATION DATE:

7/1/2022
7/1/2022
7/1/2022

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clppb or calling (800) 597-LEAD.

Attachment # 4
SITE DIAGRAM



Balboa Park Air & Space Museum, 2001 Pan
American Plaza., San Diego CA, 92101

Attachment # 5

CDPH 8552

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation _____

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

Lead Inspection Risk assessment Clearance Inspection Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]		City	County	Zip Code
Construction date (year) of structure	Type of structure <input type="checkbox"/> Multi-unit building <input type="checkbox"/> School or daycare <input type="checkbox"/> Single family dwelling <input type="checkbox"/> Other _____		Children living in structure? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know	

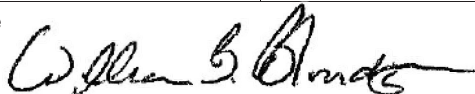
Section 4 — Owner of Structure (if business/agency, list contact person)

Name		Telephone number		
Address [number, street, apartment (if applicable)]		City	State	Zip Code

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

No lead-based paint detected
 Intact lead-based paint detected
 Deteriorated lead-based paint detected
 No lead hazards detected
 Lead-contaminated dust found
 Lead-contaminated soil found
 Other _____

Section 6 — Individual Conducting Lead Hazard Evaluation

Name		Telephone number		
Address [number, street, apartment (if applicable)]		City	State	Zip Code
CDPH certification number	Signature 		Date	

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

- A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
- B. Each testing method, device, and sampling procedure used;
- C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
 Childhood Lead Poisoning Prevention Branch Reports
 850 Marina Bay Parkway, Building P, Third Floor
 Richmond, CA 94804-6403
 Fax: (510) 620-5656

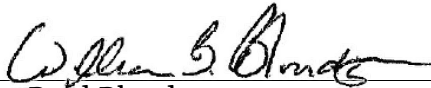
ASBESTOS ABATEMENT SPECIFICATION

for

BALBOA PARK AIR & SPACE MUSEUM-STUCCO REMOVAL

June 12, 2023

Prepared by:

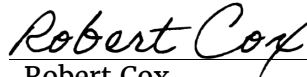


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I. DEFINITIONS

- A. **ABATEMENT:** Any set of measures designed to permanently eliminate asbestos hazards.
- B. **ABATEMENT CONTRACTOR:** The designated sub-contractor performing the required abatement work outlined in this specification.
- C. **ACCREDITED or ACCREDITATION (when referring to a person or laboratory):** A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).
- D. **AIR MONITORING:** The process of measuring the fiber content of a specific volume of air.
- E. **AMENDED WATER:** Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.
- F. **ASBESTOS:** The asbestiform varieties of Serpentine (Chrysotile), Riebeckite (Crocidolite), Cummingtonite Grunerite, Anthophyllite, and Actinolite Tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
- G. **ASBESTOS CONTAINING MATERIAL (ACM):** Any material containing more than 1% by weight of asbestos of any type or mixture of types.
- H. **ASBESTOS-CONTAINING BUILDING MATERIAL (ACBM):** Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
- I. **ASBESTOS CONTAINING WASTE MATERIAL:** Any material which is asbestos containing, suspected of being asbestos containing, or any material contaminated with asbestos, which is to be removed from a work area for disposal.
- J. **ASBESTOS DEBRIS:** Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
- K. **AUTHORIZED VISITOR:** The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state, and local regulatory or other agency having authority over the project.

- L. **BARRIER:** Any surface that seals off the work area to inhibit the movement of fibers.
- M. **BREATHING ZONE:** A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- N. **DEMOLITION:** The wrecking or taking out of any building component, system, finish, or assembly of a facility together with any related handling operations.
- O. **DISPOSAL BAG:** A properly labeled 6 mil thick leak tight plastic bag used for transporting asbestos waste from work and to disposal site.
- P. **ENCAPSULANT:** A penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos containing materials rather than for in situ encapsulation.
- Q. **ENCAPSULATION:** Treatment of asbestos containing materials, with an encapsulant.
- R. **ENCLOSURE:** The construction of an air-tight, impermeable, permanent barrier around asbestos containing material to control the release of asbestos fibers into the air.
- S. **FILTER:** A media component used in respirators to remove solid or liquid particles from the inspired air.
- T. **FRIABLE ASBESTOS MATERIAL:** Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry. A material can also be rendered friable via mechanical means.
- U. **HEPA FILTER:** A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.
- V. **HEPA FILTER VACUUM COLLECTION EQUIPMENT (or vacuum cleaner):** High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
- W. **NEGATIVE PRESSURE RESPIRATOR:** A respirator in which the air pressure inside the respiratory inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
- X. **PERSONAL MONITORING:** Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

- Y. PROTECTION FACTOR: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- Z. PROJECT MONITOR: City of San Diego Asbestos & Lead Management Program staff or their designated consultant.
- AA. VISIBLE EMISSIONS: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- BB. WET CLEANING: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.
- CC. WORK AREA: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by Title 8 CCR 1529

II. GENERAL REQUIREMENTS

- A. DESCRIPTION OF WORK FOR BALBOA PARK AIR & SPACE MUSEUM
 1. ABATEMENT CONTRACTOR shall supply all labor, transportation, material, apparatus, and equipment for the removal, and disposal of asbestos-containing materials (ACM) to be impacted because of this project, as identified in Appendix C of this section. The building and building materials affected are: **Exterior Stucco Removal with CalOSHA worker protections.**
 2. ABATEMENT CONTRACTOR shall be responsible for ensuring the building will not be contaminated with asbestos containing material during work and shall be responsible for any clean-up determined necessary by City of San Diego's PROJECT MONITOR.
 3. Before submitting his/her bid, the ABATEMENT CONTRACTOR shall visit the project site and verify the location of the asbestos-containing materials that will be removed under the terms and conditions of the contract and this specification.
 4. Abatement work shall be performed within agreed upon hours submitted prior to project start which will not include designated City holidays.
 5. Before the beginning of the work related to asbestos abatement, ABATEMENT CONTRACTOR shall hold a safety construction meeting with all asbestos related supervisors, workers, and other contractors on-site that provides an overview of the accepted asbestos work plan, decontamination procedures specific to this project (decontamination procedures shall be on paper with copies for all present), and disposal plan for this project. A

meeting shall include the PROJECT MONITOR and any other designated City representative.

B. CONTRACTOR USE OF THE PREMISES

1. All site rules and regulations affecting the work should be complied with while engaged in project activities. The existing building should be maintained in a safe condition throughout the asbestos abatement activities. The ABATEMENT CONTRACTOR will be responsible for adhering to all applicable building codes and fire safety requirements.
2. All public areas will be kept free of accumulated waste, materials, rubbish, and debris.

C. PROJECT COORDINATION

1. It will be the responsibility of the ABATEMENT CONTRACTOR to coordinate all site activities with the City's Asbestos, Lead & Mold Program's (ALMP) PROJECT MONITOR including any meetings, surveys, special reports, and site usage limitations.

D. PROJECT SUBMITTALS

The ABATEMENT CONTRACTOR shall not commence any work until approval has been given by the City. The ABATEMENT CONTRACTOR shall submit the following 60 days prior to commencement of any asbestos abatement activities:

1. Asbestos Abatement Work Plan:
 - a) In addition to the information required in this section, Work Plan shall contain all information required under Title 8 CCR 1529. Submit a detailed job-specific plan that includes:
 - (1) The procedures proposed comply with the requirements of this specification and all applicable regulations.
 - (2) Detailed drawings that identify the location, size, layout and details of the Work Areas, any equipment, disposal storage, restrooms, and worker decontamination facilities.
 - (3) The sequencing of abatement work and the interface of trades involved in the performance of work. Provide a timeline that details each major phase of work activity and the anticipated time it will occur.
 - (4) The methods to be used to assure the safety of occupants and visitors to the site.
 - (5) Detailed description of the methods to be employed to ensure asbestos is not released above background air levels.
 - (6) The method of removal to minimize asbestos dust generation in the Work Area,
 - b) Work site coordination submittals including:
 - (1) Contingency and Spill Plan: Prepare a contingency plan for emergencies including fire, accident, power failure, or any other event that may require modification or abridgement of decontamination or Work Area isolation procedures. Include in

plan specific procedures for decontamination or Work Area isolation. Plan should be specific for all types of hazardous materials or situations specific to this work site. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

(2) Telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company.

2. Notifications:

a) If required by regulations, submit copies of notifications made to regulatory agencies along with a copy of certified mail receipt.

b) Notify emergency service agencies including fire, ambulance, police, or other agencies that may service the abatement work site in case of an emergency. Notification is to include methods of entering the Work Area, emergency entry and exit locations, modifications to fire notification or fire-fighting equipment, and other information needed by agencies providing emergency services.

c) Notifications of Emergency: Any individual at the job site may notify emergency service agencies, if necessary, without effect on this contract or the Contract Sum.

d) Provide a submittal identifying the person responsible for responding to project site emergencies twenty-four hours a day, seven days a week.

3. ABATEMENT CONTRACTOR qualifications and personnel information submittals that include but are not limited to:

a) Submit a copy of the ABATEMENT CONTRACTOR's Asbestos DOSH Handling License.

b) Identify state licensed transporter, disposal location, and associated permits for all asbestos waste.

c) Provide all staff names, certifications, and experience. Identify their duties and responsibilities for this project. ABATEMENT CONTRACTOR shall have the following minimum levels of qualified supervision on the project site:

(1) General Superintendent: Provide a full-time General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the ABATEMENT CONTRACTOR's representative responsible for compliance with all applicable federal, state, and local regulations and guidelines, particularly those relating to asbestos abatement and hazardous waste. Should, in the opinion of the OWNER, any language barriers exist between the on-site superintendent and the OWNER or PROJECT MONITOR, the ABATEMENT CONTRACTOR shall employ a qualified full-time interpreter or

provide a new on-site superintendent at no additional cost to the OWNER. Shall be AHERA certified as asbestos supervisor.

(2) Foreman: Provide a full time Foreman to directly supervise and direct no more than 10 abatement workers. Each Foreman will act as the Competent Person as required by Title 8 CCR 1529 for the workers the foreman is directing. The Foreman has oversight authority over the workers and reports to the General Superintendent. If there are 10 or fewer abatement workers on the project the General Superintendent may fill the Foreman's position. Shall be AHERA certified as asbestos supervisor.

(3) Experience and Training: The General Superintendent and foreman shall meet all the requirements as a Competent Person as required by Title 8 CCR 1529. They shall have completed training in EPA Asbestos Supervisor Training. They shall have experience with projects of similar types and sizes.

(4) Workers: All asbestos abatement workers shall have current EPA and OSHA asbestos abatement training.

(5) Certificate of Worker's Acknowledgment: Submit an original signed copy of the Certificate of Worker's Acknowledgment found in Appendix A of this section, for each worker and supervisor who is to be at the job site or enter the Work Area.

d) Submit respiratory protection information and air monitoring data as per the following:

(1) Operating Instruction: Submit complete operating and maintenance instructions for all components and systems. The submittal is to be in bound manual form suitable for field use.

(2) Respiratory Protection Program: Submit ABATEMENT CONTRACTOR's written respiratory protection program manual as required by Title 8 CCR 1529 and 5144.

(3) Respiratory Protection Schedule: Submit the level of respiratory protection intended for each operation required by the project.

(4) Copies of current respirator fit test: Fit tests must be performed annually.

e) Submit doctor's report from medical examination conducted within the last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, the following for each worker:

(1) Name and Social Security Number

(2) Physicians Written Opinion from examining physician including at a minimum the following:

(a) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to

asbestos. Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.

(b) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.

f) Submit a notarized certification, signed by an officer of the ABATEMENT CONTRACTOR firm that exposure measurements, medical surveillance, and worker training records are being kept in conformance with Title 8 CCR 1529.

g) Identify the laboratory that will be performing the analysis of the personal samples and provide their accreditation. Also discuss the method by which the ABATEMENT CONTRACTOR will provide the analytical results to the PROJECT MONITOR within 24 hours of sampling completion.

4. Submit the following during and at the completion of the work:

a) Copies of all Waste Shipment Records

b) Copies of all air monitoring results within 24 hours

5. At the end of a project, the ABATEMENT CONTRACTOR shall submit the following to the PROJECT MONITOR:

a) Personal Air Sample Results

b) Copies of Project Daily Logs

c) Containment Entry/Exit Logs

d) Waste Disposal Documentation

e) Certificate of Visual Inspection

E. SCHEDULES AND REPORTS

1. Prior to each phase of the project, the ABATEMENT CONTRACTOR shall provide the City with a tentative timeline which outlines the project schedule. These documents will be reviewed and approved by the city prior to the commencement of work.

F. PRODUCT DATA

1. The ABATEMENT CONTRACTOR shall submit product information that is to be used during the abatement activities prior to commencement of work (i.e., encapsulants). General information required includes manufacturer's standard printed recommendations for application and use, compliance with recognized standards of trade association and testing agencies, and safety data sheets (SDSs).

2. Polyethylene sheet

a) A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, and clear, frosted, or black as indicated.

b) Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association

Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide the largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, and frosted or black as indicated.

c) Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, frosted or black as indicated.

3. Tape

a) Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

4. Spray adhesive

a) Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

G. PROJECT CLOSE-OUT

1. Upon completion of work and prior to payment, the PROJECT MONITOR will proceed with an initial inspection of the abatement work area. A Certificate of Visual Inspection (Appendix B) will be signed by both the ABATEMENT CONTRACTOR and PROJECT MONITOR. The ABATEMENT CONTRACTOR will not be paid until the area meets the established project-specific clearance criteria and has submitted the required information.

III. SITE WORK

A. INTRODUCTION

This portion of the specification describes procedures and protocols for asbestos abatement activities. The protocols/procedures described hereafter are in accordance with federal/state/local requirements. In the absence of these requirements, the procedure/protocols are based on current industry standards.

B. BACKGROUND INFORMATION

SPECIFIC SITE INFORMATION: The planned scope of work for the structure located at 2001 Pan American Plaza in Balboa Park is the removal of stucco at various locations to make structural repairs. Sampling of building materials has been performed by inspectors from the City's Asbestos, Lead & Mold Program (ALMP) and has been provided in Appendix C of this specification.

C. GENERAL INFORMATION

1. Potential Asbestos Hazard

The disturbance of asbestos containing materials may cause exposure to workers and building occupants. All workers, supervisory personnel, subcontractors, and consultants who will be at the job site, need to be apprised of the seriousness of the hazard and of proper work practices which must be

followed to minimize exposure. The procedures and methods described herein must be followed and the ABATEMENT CONTRACTOR must comply with all applicable federal/state/local requirements.

2. Stop Work

If the PROJECT MONITOR presents a verbal or written stop work order, the ABATEMENT CONTRACTOR shall immediately and automatically stop all work. Recommencement of the work may not begin until authorized by the PROJECT MONITOR.

D. PROJECT ADMINISTRATION

1. Certified Supervisor

The ABATEMENT CONTRACTOR needs to provide a full-time asbestos abatement supervisor who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This supervisor must have completed an "Asbestos Abatement Supervision" course. This person will act as the competent person on the job.

In addition, all employees working on the project must have taken an "Asbestos Abatement Worker" course.

2. Special Reports

a) Reporting Unusual Events

When an event of unusual and significant nature occurs at the site (e.g., a spill of asbestos debris, failure of special equipment used to contain asbestos), the ABATEMENT CONTRACTOR shall prepare and submit a special report listing the chain of events, persons participating, response by ABATEMENT CONTRACTOR's personnel, evaluation of results, and other pertinent information.

b) Reporting Accidents

The ABATEMENT CONTRACTOR shall prepare and submit reports of significant accidents at the subject site. Pertinent data and actions need to be recorded. In addition, response actions should comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury or potential environmental contamination.

3. Compliance with Codes and Regulations

a) Except to the extent that more explicit, or more stringent requirements are written directly into this Asbestos Abatement Contract/Specification, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

b) The ABATEMENT CONTRACTOR will assume full responsibility and liability for the compliance with all applicable federal/state/local regulations pertaining to work practices, protection of workers, and visitors to the site, persons occupying areas adjacent to the site, hauling, and disposal of waste. The ABATEMENT CONTRACTOR shall hold the City and its representative harmless for the ABATEMENT

CONTRACTOR's failure to comply with any applicable work, hauling, disposal, safety, health, or other regulation on the part of itself, its employees, or its SUB CONTRACTORS.

4. State requirements which govern asbestos abatement activities, or hauling and disposal of hazardous waste include, but are not limited to, the following:

- a) As required, ABATEMENT CONTRACTOR shall notify all Local, State, and Federal agencies regulating standards for the removal of asbestos-containing materials, including but not limited to: Cal-OSHA, San Diego Air Pollution Control District, and U.S. Environmental Protection Agency. ABATEMENT CONTRACTOR shall provide Owner a copy of each notification and a copy of a certified mail receipt proving proper notification to all required agencies.
- b) ABATEMENT CONTRACTOR shall be registered as an asbestos contractor before performing any asbestos related work; a licensee must also be registered with the Department of Industrial Relations, Division of Occupational Safety and Health.
- c) Transportation of hazardous materials shall be in accordance with the State of California Title 22 and the Department of Transportation regulations.
- d) ABATEMENT CONTRACTOR shall comply with all provisions of California Title 8, Section 5208, and Section 1529.
- e) ABATEMENT CONTRACTOR shall be in compliance with all provisions of Title 40 CFR Part 61.
- f) ABATEMENT CONTRACTOR shall assume full responsibility and liability for compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to site, and persons occupying areas adjacent to the site.

E. PERMITS AND LICENSES

The ABATEMENT CONTRACTOR shall submit to the City in the bid submittal any permits or licenses necessary to carry out this work.

1. Permits

A valid Hazardous Waste Hauler registration is required for transporting any hazardous waste. Certain types of equipment require APCD permits (e.g., abrasive blasters).

2. Licenses

The ABATEMENT CONTRACTOR must be certified by the California Contractors State License Board. The ABATEMENT CONTRACTOR, or its subcontractor, shall have current licenses, as required by all applicable state or local jurisdictions for the removal, transportation, disposal, or other regulated activity relative to the work described in this plan.

F. HEALTH AND SAFETY

This section describes the equipment and procedures required for protecting workers from asbestos contamination and other workplace hazards.

1. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work.
2. Training
 - a) All workers are to be trained, certified, and accredited as required by state or local code or regulation.
 - b) Train all workers, in accordance with Title 8 CCR section 5208 and section 1529, regarding the dangers inherent in handling asbestos and breathing asbestos dust, proper work procedures, and personal and area protective measures.
 - c) Provide medical examinations for all workers who may encounter an airborne fiber level of 0.1 fibers/cc or greater for an 8-hour Time Weighted Average. In the absence of specific airborne fiber data, provide medical examinations for all workers who will enter the Work Area for any reason. The examination shall as a minimum meet the requirement as set forth in Title 8 CCR 1529. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.
3. Protective clothing
 - a) Coveralls: Provide disposable "full body" coveralls with head covers and require them to be always worn by all workers in the Work Area. Provide a sufficient number of disposable coveralls for all required changes, for all workers in the Work Area.
 - b) Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protection for all workers. Provide boots at no cost to workers. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with asbestos-containing material. Thoroughly clean, decontaminate and bag boots before removing them from Work Area at the end of the work shift.
 - c) Hard Hats: Provide head protection (hard hats) as required by OSHA for all workers, and provide 1 spare for use by Owner's Representative, Project Administrator, and Owner. Require hard hats to be always worn when work is in progress that may potentially cause head injury. Provide hard hats of the type with plastic strap suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work shift.
 - d) Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work shift.
 - e) Gloves: Provide work gloves to all workers and require that they be always worn in the Work Area. Do not remove gloves from Work Area. Dispose of gloves as asbestos-contaminated waste at the end of the work shift.
4. Respirators

- a) Air Purifying Respirators
 - (1) Respirator Bodies: Provide half-face or full-face type respirators based upon appropriate protection factor as determined by the ABATEMENT CONTRACTORS competent person.
 - (2) Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.
 - (3) Non permitted respirators: Do not use single use, disposable or quarter face respirators.
 - (4) Require that respiratory protection be always used when there is any possibility of disturbance of asbestos containing materials whether intentional or accidental.
 - (5) Require that a respirator be always worn by anyone in a Work Area, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re occupancy.
 - (6) Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used be a half-face air purifying respirators with high efficiency filters.
 - b) Fit testing
 - (1) Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training. Only allow an individual to use respirators for which training and fit testing has been provided.
 - (2) Upon Each Wearing: Require that each time an air purifying respirator is put on it be checked for fit with a positive and negative pressure fit check in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).
 - c) Respirators, disposable coveralls, head covers, and foot covers shall be provided by the ABATEMENT CONTRACTOR for the City of San Diego's Asbestos and Lead Management Program's PROJECT MONITOR, and other authorized representatives who may inspect the job site. Provide six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.
- 5. Materials and Equipment
 - a) Only material and equipment that are recognized as being suitable for the intended use, in compliance with appropriate standards, may be used.
 - 6. Water Service

- a) The ABATEMENT CONTRACTOR will be able to obtain water services from on-site facilities. The City will designate the facilities from which water service may be obtained.
7. Electrical Services
 - a) The ABATEMENT CONTRACTOR will be able to obtain electrical services from on-site facilities. The City will designate the facilities from which electrical services may be obtained. The ABATEMENT CONTRACTOR shall provide their own electrical hook-ups, i.e. spider boxes, ground fault circuit interrupter (GFCI) etc. and installed by a licensed electrician.
 - b) The electrical services need to comply with the applicable NEMA, NECA, and UL standards, and governing regulations for materials and lay-out of temporary electrical services.
8. Sanitary Facilities
 - a) The ABATEMENT CONTRACTOR shall provide sanitary facilities on site if none have been made available by the City.
9. Fire Extinguisher
 - a) Applicable recommendations of the National Fire Protection Association (NFPA) Standard 10, "Standard for Portable Fire Extinguishers," must be complied with by the ABATEMENT CONTRACTOR. Fire extinguishers need to be located where they are most convenient and effective for their intended purpose, but not less than one (1) extinguisher in each work area, the equipment room, outside/work areas, and in the clean room.
10. First Aid
 - a) The ABATEMENT CONTRACTOR will need to provide first aid supplies which should comply with the governing regulations and recognized recommendations within the construction industry.

G. WORK AREA PROCEDURES

1. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area.
2. ABATEMENT CONTRACTOR shall secure Work Area from access by public, staff, or users of the area. Accomplish this where possible by locking doors, gates, or other means of access to the area.
3. Barricade fencing is required for securing an outside area from unauthorized access. Work area delineation shall occur at no less than twelve feet (12') from the radius of the work and/or building. Yellow caution tape shall not be used.
4. All windows, vents, mechanical systems, etc., in close proximity to the abatement area shall be sealed with plastic and tape by the ABATEMENT CONTRACTOR prior to the work beginning.
5. View window as required by APCD Rule 1206 will be added where feasible when friable asbestos removal work is being performed under full containment.
6. Provide warning signs at entry to work area in accordance with California Title 8, Section 1529.

7. A visitor entry and exit log and an employee daily sign-in log shall be maintained throughout the asbestos abatement activities. The ABATEMENT CONTRACTOR shall be responsible for the project site security during the operations to protect work efforts and equipment.

H. REMOVAL OF ASBESTOS-CONTAINING MATERIALS

1. Asbestos-containing materials shall be adequately wetted with either amended water or a removal encapsulant before and during removal process, to reduce fiber emission.

2. The ABATEMENT CONTRACTOR should exercise caution in using water, as he will be solely responsible for any water damage to the facility resulting from the work.

3. ABATEMENT CONTRACTOR is responsible for keeping all asbestos always containing debris within the containment area throughout removal. Any interior contamination, if created, is the responsibility of the ABATEMENT CONTRACTOR to clean at no additional cost to the City.

4. ABATEMENT CONTRACTOR shall ensure there is no loose debris around the Work Area during the removal and if found, ABATEMENT CONTRACTOR shall clean the area immediately.

I. DISPOSAL

1. Both non-friable and friable ACM shall be containerized immediately, secured in a locked container, be transported by state licensed hauler with manifest, and disposed of at appropriate landfill location.

2. The PROJECT MONITOR or designated representative will inspect each load and sign all waste manifests before waste leaves the site.

3. Copies of Waste Shipment Records for each load of asbestos waste material shall be given to the City.

4. Cordon off the Work Area, a safe zone around the building, and the dumpster area with barrier fencing. Yellow caution tape shall not be used.

5. Provide warning signs at Work Area access in accordance with Title 8 CCR 1529

J. DECONTAMINATION PROCEDURE

1. Prior to leaving the Work Area, HEPA vacuum outer suit completely and remove, turning it inside out while doing so.

2. Proceed to the Hygiene facilities. These facilities must be provided for proper decontamination [Title 8, Section 1529 (1)(3)].

3. After wiping all areas and respirator, remove respirator and wipe facial area clean.

4. Place contaminated suits, towels, and respirator cartridges in a properly labeled asbestos waste bag.

5. At the completion of the project, boots, hard hats, and goggles should be decontaminated and bagged prior to removal from the Work Area.

6. Equipment leaving the Work Area should be HEPA vacuumed and wet wiped.

K. AIR MONITORING/WORK AREA CLEARANCE

1. The City's PROJECT MONITOR will provide ambient area air monitoring during all phases of the removal of asbestos-containing materials, including the interior and/or exterior of the facility.
2. During the project, personal air monitoring will be conducted by ABATEMENT CONTRACTOR to determine fiber levels. If the worker exposure fiber levels exceed 0.05 fibers/cc, then work shall cease and not begin again until after PROJECT MONITOR approves the ABATEMENT CONTRACTOR's revised methodology which will lower fiber levels. Procedures shall be submitted in writing to the City prior to implementing these procedures. At a minimum, ABATEMENT CONTRACTOR shall provide air monitoring for every four workers. Testing of air samples will be by Phase Contrast Microscopy following NIOSH 7400 rules.
3. If any of the ambient area samples taken by the PROJECT MONITOR outside the work area exceed 0.01 fibers/cc, then ABATEMENT CONTRACTOR is required to pay for the additional testing on those samples collected using transmission electron microscopy (TEM).
4. Release of the ABATEMENT CONTRACTOR from the asbestos-containing material removal phase of the contract will be determined by the PROJECT MONITOR based upon the results of visual inspection and/or clearance air sampling.

L. TRANSPORTATION AND DISPOSAL

1. Any packaging used to ship hazardous waste off site such as a container, roll-off bin, tank, or other device, must comply with 49 CFR Parts 173, 178, 179 and be labeled and prepared for transportation in accordance with Title 22 CCR Article 3. The hazardous waste label must be affixed and filled out when the first amount of hazardous waste is placed in the container. The label must include the initial accumulation date.
2. All additional pre-transportation labeling, marking, or placarding must be conducted prior to transporting off site and in accordance with Title 22 CCR Chapter 12, Article 3.
3. All containers and tanks of hazardous waste must be managed in a way which minimizes the threat of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste to the air, soil or surface water which could threaten human health or the environment. Management techniques include containment areas capable of holding the contents of the largest container within the containment area. Properly store and securely lock the waste bin at all times. Do not leave hazardous waste in uncovered or unlocked trucks or dumpsters.
4. A hazardous waste manifest will be completed in accordance with Title 22 CCR Chapter 12, Article 2 for each shipment of hazardous waste leaving the work site. All waste shall leave the project site by the end of the project. Only The PROJECT MONITOR shall sign as the generator on manifests.

APPENDIX A

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME: _____ DATE: _____

PROJECT ADDRESS: _____

CONTRACTOR'S NAME: _____

Working with asbestos can be dangerous. Inhaling asbestos fibers has been linked with various types of cancer. If you smoke and inhale asbestos fibers the chance that you will develop lung cancer is greater than that of the non-smoking public.

Your employer's contract with the City for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

- Physical characteristics of asbestos
- Health hazards associated with asbestos
- Respiratory protection
- Use of protective equipment
- Pressure Differential Systems
- Work practices including hands on or on job training
- Personal decontamination procedures
- Air monitoring, personal and area

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x ray.

By signing this document you are acknowledging only that the City has advised you of your rights to training and protection relative to your employer, the ABATEMENT CONTRACTOR.

Signature: _____

Social Security No.: _____

Printed Name: _____

Witness (print): _____ Witness Signature: _____

APPENDIX B
CERTIFICATION OF VISUAL INSPECTION

Project#: _____ Date: _____ Location: _____

Contractor: _____

The contractor hereby certifies that he/she has visually inspected the Work Area (all surfaces including pipes, counters, ledges, walls, ceiling and floor, behind critical barriers, sheet plastic, etc.) and has found no dust, debris or residue.

By: (Signature): _____ Date: _____

(Print Name): _____

(Company Name): _____

(Print Title): _____

CITY ALMP REPRESENTATIVE

The City ALMP Representative hereby certifies that he has accompanied the contractor on his/her visual inspection and verifies that this inspection has been thorough and to the best of his/her knowledge and belief, the contractor's certification above is a true and honest one.

By: (Signature): _____ Date: _____

(Print Name): _____

WORK AREA

Location: _____

Room: _____

Hazard Reduction Performed: _____

APPENDIX C
SUMMARY OF ASBESTOS RESULTS

Sample #	Material	Estimated Quantity	Location	Condition	Asbestos (%)
64233-B-04 64233-B-06 64233-B-07	Exterior Skim Coating	Approx. 81,000 SF	Exterior Walls	Good	<1% Chrysotile

(Contractor to verify all quantities)

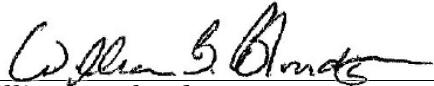
**LEAD CONTAINING MATERIALS
ABATEMENT SPECIFICATION**

for

**BALBOA PARK AIR & SPACE MUSEUM EXTERIOR
IMPROVEMENTS**

(Revised) June 5, 2023

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I. DEFINITIONS

- A. **ABATEMENT:** Any set of measures designed to permanently eliminate lead-based paint hazards including paint removal, building component removal, or near-permanent enclosure of lead-based paint hazards.
- B. **ABATEMENT CONTRACTOR:** The designated sub-contractor performing the required abatement work outlined in this specification.
- C. **ACCREDITED or ACCREDITATION (when referring to a person or laboratory):** A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).
- D. **ACTION LEVEL:** An 8-hour time weighted average (TWA) lead airborne concentration of 30 µg/m³.
- E. **AIR MONITORING:** The process of measuring the lead content of a specific volume of air.
- F. **AUTHORIZED VISITOR:** The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.
- G. **BARRIER:** Any surface that seals off the work area to inhibit the movement of dust.
- H. **BREATHING ZONE:** A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
- I. **CONTAINMENT:** A process for protecting both workers and environment by controlling exposures to lead dust and debris created during abatement.
- J. **CONTAMINATE:** Refers to lead-containing dust/debris.
- K. **DEMOLITION:** The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
- L. **DISPOSAL BAG:** A properly labeled 6 mil thick leak tight plastic bags used for transporting lead waste from work site to disposal site.
- M. **ENCAPSULATION:** Any covering or coating that acts as a barrier between lead-based paint and the environment and that relies on adhesion and the integrity of the existing paint bonds between layers and with the substrate for its durability.
- N. **ENCLOSURE:** The use of rigid durable construction materials that are mechanically fastened to the substrate to act as a barrier between lead-based paint and the living or workspace.

- O. HEPA FILTER: A high Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of all mono-dispersed particles greater than 0.3 microns in diameter or larger.
- P. HEPA FILTER VACUUM COLLECTION EQUIPMENT (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining lead.
- Q. HIGH PHOSPHATE DETERGENT: Detergent which contains at least 5% tri sodium phosphate.
- R. LEAD: Means metallic lead, all inorganic lead compounds, and organic lead soaps.
- S. LEAD-BASED PAINT (LBP): For purposes of this project, LBP refers to the materials identified in these specifications as having paint or coatings that contains lead.
- T. LEAD-RELATED CONSTRUCTION SUPERVISOR: Means an individual who is responsible for implementing lead-related construction work and enforcing work practices. This person must have received certification as a lead-related construction Supervisor.
- U. LEAD-RELATED CONSTRUCTION WORK: Means any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of a building, including preparation and cleanup, by disturbing lead-containing material that may result in exposure of individuals to lead.
- V. LEAD-RELATED CONSTRUCTION WORKER: Means any individual who performs lead-related construction work in a building under the direction of lead-related construction Supervisor and has received certification as a lead-related construction Worker.
- W. OWNER: Refers to the City of San Diego
- X. PAINT FILM STABILIZATION: The process of using wet scraping, priming, and repainting a deteriorated lead-based paint film in a dwelling including clean-up and clearance.
- Y. PAINT REMOVAL: A strategy of abatement which entails removing lead based paint from surfaces of components using chemicals, heat guns below 11000F, and certain contained abrasive methods but not open flame burning, open abrasive blasting, sandblasting, water blasting, extensive dry scraping, or methylene chloride removers.
- Z. PERMISSIBLE EXPOSURE LIMIT (PEL): An 8-hour TWA lead airborne concentration of 50 µg/m³.
- AA. PERSONAL MONITORING: Sampling of contaminant concentrations within the breathing zone of an employee.
- BB. PROJECT MONITOR: City of San Diego Asbestos & Lead Management Program staff or their designated consultant.

- CC. PROTECTION FACTOR: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- DD. RRP: EPA's Renovation, Repair and Painting certification that requires contractor training and lead-safe work practices when performing renovation type activities in housing built prior to 1978.
- EE. REPLACEMENT: A strategy of abatement which entails the removal of components such as windows, doors, and trim that have lead painted surfaces and installing new components free of lead paint.
- FF. RESPIRATOR: A device designed to protect the wearer from the inhalation of harmful contaminants.
- GG. TESTING LABORATORIES: A "testing laboratory" is an entity engaged to perform specific inspections or tests, either at the project site or elsewhere, to report on, and, if required, to interpret results of, those inspections or tests.
- HH. TIME-WEIGHTED AVERAGE (TWA): The average concentration of a contaminant in air during a specific time period.
- II. TRIGGER TASKS: Work tasks that require an employer to assume specified employee exposures until the employer has performed an exposure assessment [see T8CCr, 1532.1 (d) (2)].
- JJ. WET CLEANING: The process of eliminating lead contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of appropriately.
- KK. WORK AREA: The area where abatement work operations are performed which is defined and/or isolated to prevent the spread of contamination, and entry by unauthorized personnel.

II. GENERAL REQUIREMENTS

A. DESCRIPTION OF WORK

1. ABATEMENT CONTRACTOR shall supply all labor, transportation, material, apparatus, and equipment for the containment, removal, and disposal of lead containing materials to be impacted by this project, as identified in Appendix C of this section. The Balboa Park Air & Space Museum building has areas with lead paint concentrations. The abatement work involves paint restoration of the column light covers, window frames, and wall surfaces at areas identified as having paint containing lead in concentrations above .5 mg/cm² in the survey report. Containment of all paint chips and dust will be required.

2. ABATEMENT CONTRACTOR shall be responsible for ensuring the surrounding areas will not be contaminated with lead containing materials during work and shall be responsible for any clean-up determined necessary by City of San Diego's PROJECT MONITOR.
3. Before submitting his/her bid, the ABATEMENT CONTRACTOR shall visit the project site and verify the location of the lead containing materials that will be removed under the terms and conditions of the contract and this specification.
4. All paint chips collected must be stored in sealable drum containers (not in bags).
5. Abatement work shall be performed within agreed upon hours submitted prior to project start which will not include designated City holidays.
6. Before the beginning of abatement work the ABATEMENT CONTRACTOR shall hold a safety construction meeting with all abatement supervisors, workers, and other contractors on-site that provides an overview of the accepted work plan, decontamination procedures specific to this project (decontamination procedures shall be on paper with copies for all present), and disposal plan for this project. Meeting shall include the PROJECT MONITOR and any other designated City representative.

B. CONTRACTOR USE OF THE PREMISES

1. All site rules and regulations affecting the work should be complied with while engaged in project activities. The existing building should be maintained in a safe condition throughout the abatement activities. The ABATEMENT CONTRACTOR will be responsible for adhering to all applicable building codes and fire safety requirements.
2. All public areas will be kept free of accumulated waste, materials, rubbish, and debris.

C. PROJECT COORDINATION

1. It will be the responsibility of the ABATEMENT CONTRACTOR to coordinate all site activities with the City's Asbestos & Lead Management Program's (ALMP) PROJECT MONITOR including any meetings, surveys, special reports, and site usage limitations.

D. PROJECT SUBMITTALS

The ABATEMENT CONTRACTOR shall not commence any work until approval has been given from the City. The ABATEMENT CONTRACTOR shall submit the following at least 60 days prior to commencement of any lead abatement activities:

1. Lead Abatement Work Plan:
 - a) Submit a detailed job-specific plan that includes:
 - (1) The procedures proposed to comply with the requirements of this specification and all applicable regulations.

- (2) Detailed drawings that identify the location, size, layout and details of the Work Areas, any equipment, disposal storage, restrooms, and worker decontamination facilities.
 - (3) The sequencing of abatement work and the interface of trades involved in the performance of work. Provide a timeline that details each major phase of work activity and anticipated time it will occur.
 - (4) The methods to be used to assure the safety of occupants and visitors to the site.
 - (5) A description of methods to be used to control dispersion of hazardous materials to the interior and exterior of the building.
 - (6) The method of removal to minimize dust generation in the Work Area.
- b) Work site coordination submittals including:
- (1) Contingency and Spill Plan: Prepare a contingency plan for emergencies including fire, accident, power failure, or any other event that may require modification or abridgement of decontamination or Work Area isolation procedures. Include in plan specific procedures for decontamination or Work Area isolation. Plan should be specific for all types of hazardous materials or situations specific to this work site. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.
 - (2) Telephone numbers and locations of emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company.

2. Notifications:

- a) Prior to any abatement activities the ABATEMENT CONTRACTOR must submit a CDPH Form 8551 (Abatement of Lead Hazards Notification) to the Compliance and Enforcement Unit of the CLPPB. The Form 8551 must be posted at the entrances to the property at least 5 days prior and during abatement activities.
- b) Submit Cal/OSHA pre-job notification for lead-related construction work per Title 8 CCR 1532.1 subsection (p), "Lead-Work Pre-Job Notification".
- c) Permits, notifications, and licenses needed to perform work (including hazardous waste hauler's registration)
- d) Notify emergency service agencies including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency. Notification is to include methods of entering Work Area, emergency entry and exit locations, modifications to fire

notification or fire-fighting equipment, and other information needed by agencies providing emergency services.

e) Notifications of Emergency: Any individual at the job site may notify emergency service agencies if necessary without effect on this contract or the Contract Sum.

f) Provide submittal identifying person responsible for responding to project site emergencies twenty-four hours a day, seven days a week.

3. ABATEMENT CONTRACTOR qualifications and personnel information submittals that include but are not limited to:

a) Provide all staff names, certifications, and experience. Identify their duties and responsibilities on this project. ABATEMENT CONTRACTOR shall have the following minimum levels of qualified supervision on the project site:

(1) General Superintendent: Provide a full-time General Superintendent who is experienced in administration and supervision of lead abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the ABATEMENT CONTRACTOR's representative responsible for compliance with all applicable federal, state and local regulations and guidelines, particularly those relating to lead abatement and hazardous waste. Should, in the opinion of the OWNER, any language barrier exist between the on-site superintendent and the OWNER or PROJECT MONITOR, the ABATEMENT CONTRACTOR shall employ a qualified full-time interpreter or provide a new on-site superintendent at no additional cost to the OWNER. Shall be CDPH certified as a Lead Supervisor.

(2) Foreman: Provide a full time Foreman to directly supervise and direct no more than 10 lead workers. Each Foreman will act as the Competent Person for the workers the foreman is directing. The Foreman has oversight authority over the workers and reports to the General Superintendent. If there are 10 or fewer abatement workers on the project the General Superintendent may fill the Foreman's position. Shall be CDPH certified as a Lead Supervisor.

(3) Experience and Training: The General Superintendent and foreman shall meet all the training requirements as a Supervisor in accordance with Title 17, California Code of Regulations, Division 1, Chapter 8. They shall also have experience with projects of similar types and sizes.

(4) Workers: All abatement workers shall have current certifications as a Lead Worker in accordance with Title 17, California Code of Regulations, Division 1, Chapter 8.

- (5) Certificate of Worker's Acknowledgment: Submit an original signed copy of the Certificate of Worker's Acknowledgment found in Appendix A of this section, for each worker and supervisor who is to be at the job site or enter the Work Area.
- b) Identify state licensed transporter, disposal location, and associated permits for all hazardous waste.
- c) Submit respiratory protection information and air monitoring data as per the following:
 - (1) Operating Instruction: Submit complete operating and maintenance instructions for all respirator components and systems. Submittal is to be in bound manual form suitable for field use.
 - (2) Respiratory Protection Program: Submit ABATEMENT CONTRACTOR's written respiratory protection program manual as required by 8 CCR 1531 and 5144.
 - (3) Respiratory Protection Schedule: Submit level of respiratory protection intended for each operation required by the project.
 - (4) Copies of current respirator fit test: Fit tests must be performed annually.
- d) Submit doctor's report from medical examination conducted within the last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, the following for each worker:
 - (1) Name and Social Security Number (last four digits)
 - (2) Copies of Blood Lead Levels and Zinc Protoporphyrin tests
 - (3) Physicians Written Opinion from examining physician including at a minimum the following:
 - (a) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to lead. Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
 - (b) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from lead exposure.
- e) Submit a notarized certification, signed by an officer of the ABATEMENT CONTRACTOR firm that exposure measurements, medical

surveillance, and worker training records are being kept in conformance with 8 CCR 1529.

f) Identify the laboratory that will be performing the analysis of the personal samples and provide their accreditation. Also discuss the method by which the ABATEMENT CONTRACTOR will provide the analytical results to the PROJECT MONITOR within 24 hours of sampling completion.

4. Submit the following during and at the completion of the work
 - a) Copies of all Waste Shipment Records
 - b) Copies of all air monitoring results within 24 hours
5. At the end of a project, the ABATEMENT CONTRACTOR shall submit the following to the PROJECT MONITOR:
 - a) Personal Air Sample Results
 - b) Copies of Project Daily Logs
 - c) Containment Entry/Exit Logs
 - d) Waste Disposal Documentation
 - e) Certificate of Visual Inspection

E. SCHEDULES AND REPORTS

1. Prior to each phase of project, the ABATEMENT CONTRACTOR shall provide the City with a tentative time line which outlines the project schedule. These documents will be reviewed and approved by the City prior to the commencement of work.

F. PRODUCT DATA

1. The ABATEMENT CONTRACTOR shall submit product information that is to be used during the abatement activities prior to commencement of work (i.e., encapsulants). General information required includes manufacturer's standard printed recommendations for application and use, compliance with recognized standards of trade association and testing agencies, and safety data sheets (SDSs).
2. Polyethylene sheet
 - a) A single polyethylene film in the largest sheet size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, and clear, frosted, or black as indicated.
 - b) Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, and frosted or black as indicated.
 - c) Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-

resistant Textiles and Films. Provide largest size possible to minimize seams, 4.0 or 6.0 mil thick as indicated, frosted or black as indicated.

3. Tape
 - a) Provide duct tape in 2" or 3" widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.
4. Spray adhesive
 - a) Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

G. PROJECT CLOSE-OUT

1. Upon completion of work and prior to payment, the PROJECT MONITOR will proceed with an initial inspection of the abatement work area. A Certificate of Visual Inspection (Appendix B) will be signed by both the ABATEMENT CONTRACTOR and PROJECT MONITOR. The ABATEMENT CONTRACTOR will not be paid until the area meets the established project-specific clearance criteria and has submitted the required information.

III. SITE WORK

A. INTRODUCTION

This portion of the specification describes procedures and protocols for abatement activities. The protocols/procedures described hereafter are in accordance with federal/state/local requirements. In the absence of these requirements, the procedure/protocols are based on current industry standards.

B. BACKGROUND INFORMATION

Sampling of building materials has been performed by inspectors from the City's Asbestos, Lead & Lead Mold Program (ALMP) and has been provided in Appendix C of this specification. The ABATEMENT CONTRACTOR shall visit the project site and verify the location and quantities of the lead containing materials that will be removed under the terms and conditions of the contract and this specification.

C. GENERAL INFORMATION

1. Potential Hazards
 - a) The disturbance of lead containing materials may cause exposure to workers and building occupants. All workers, supervisory personnel, subcontractors, and consultants who will be at the job site, need to be apprised of the seriousness of the hazard and of proper work practices which must be followed to minimize exposure. The procedures and methods described herein must be followed and the ABATEMENT CONTRACTOR must comply with all applicable federal/state/local requirements.
2. Stop Work

a) If the PROJECT MONITOR presents a verbal or written stop work order, the ABATEMENT CONTRACTOR shall immediately and automatically stop all work. Recommencement of the work may not begin until authorized by the PROJECT MONITOR.

D. PROJECT ADMINISTRATION

1. Certified Supervisor

The ABATEMENT CONTRACTOR needs to provide a full-time lead abatement supervisor who is experienced in administration and supervision of lead abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This supervisor must have a current CDPH Lead Supervisor certificate. This person will act as the competent person on the job.

In addition, all employees working on the project must have current Worker CDPH Lead Related Construction Certifications.

2. SPECIAL REPORTS

a) Reporting Unusual Events

When an event of unusual and significant nature occurs at the site (e.g., a spill of lead debris, failure of special equipment used to contain lead), the ABATEMENT CONTRACTOR shall prepare and submit a special report listing the chain of events, persons participating, response by Contractor's personnel, evaluation of results, and other pertinent information.

b) Reporting Accidents

The ABATEMENT CONTRACTOR shall prepare and submit reports of significant accidents at the subject site. Pertinent data and actions need to be recorded. In addition, response actions should comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury or potential environmental contamination.

3. COMPLIANCE WITH CODES AND REGULATIONS

Except to the extent that more explicit, or more stringent requirements are written directly into this Abatement Contract/Specification, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

The ABATEMENT CONTRACTOR will assume full responsibility and liability for the compliance with all applicable federal/state/local regulations pertaining to work practices, protection of workers, and visitors to the site, persons occupying areas adjacent to the site, hauling, and disposal of waste. The ABATEMENT CONTRACTOR shall hold the City and its representative harmless for the ABATEMENT CONTRACTOR's failure to comply with any applicable work, hauling,

disposal, safety, health, or other regulation on the part of itself, its employees, or its subcontractors,

State requirements which govern lead hazard control activities, or hauling and disposal of hazardous waste include, but are not limited to, the following:

(1) California Occupational Safety and Health Administration (Cal/OSHA):

- (a) Division of Industrial Safety; Chapter 4
- (b) 8CCR, Section 1532.1, Lead in Construction
- (c) 8CCR, Section 5194, Hazard Communication Standard
- (d) 8CCR, Section 1531, Construction Respiratory Protection Standard
- (e) 8CCR, Section 1514, Construction Personal Protective Equipment
- (f) 8CCR, Section 1509, Construction Injury Illness Prevention Program
- (g) 8CCR, Section 6003-4, Accident Prevention Signs and Tags
- (h) 8CCR, Section 3204, Access to Employee Exposure Medical Records

(2) California Environmental Protection Agency (Cal/EPA):

- (a) 22CCR, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste.

(3) California Department of Public Health (CDPH):

- (a) 17CCR, Division 1, Chapter 8, Accreditation of training providers and interim certification of individuals engaged in lead-related construction work.

b) Federal requirements which govern lead hazard control activities or hauling and disposal of hazardous waste include, but are not limited to, the following:

(1) Federal Environmental Protection Agency (FED/EPA):

- (a) Hazardous Waste Standards, 40 Code of Federal Regulations (CFR), Part 261
- (b) EPA Renovate, Repair, Painting (RRP), 40 CFR 745, Subpart E.

(2) U.S. Department of Transportation (DOT):

- (a) Hazardous Substances, 49CFR, Parts 171 through 180

(3) American National Standards Institute, Inc. (ANSI):

- (a) Z9.2-79 Fundamentals Governing the Design and Operation of Local Exhaust
- (b) Z88.2-80 Practices of Respiratory Protection
- (4) Department of Housing and Urban Development (HUD):
 - (a) Guidelines for the Evaluation and Control of Lead Based Paint Hazards in Housing (most current draft or final copy)
- c) In addition, the ABATEMENT CONTRACTOR must comply with any applicable regulations promulgated as a result of Title X, the Residential Lead Based Paint Hazard Reduction Act and Title IV, Lead Exposure Reduction Act.
- d) Local requirements which govern lead hazard control activities include, but are not limited to, the following:
 - (1) Air Pollution Control District (APCD) - San Diego County
 - (a) APCD Rules and Regulations, Rule 51 (Public Nuisance), Rule 10-11 (permitting of equipment)
 - (2) San Diego Municipal Code §54.1001 etc. seq.
 - (a) Prevents, identifies and remedies lead hazards within the City of San Diego

E. PERMITS AND LICENSES

The ABATEMENT CONTRACTOR shall submit to the City in the bid submittal any permits or licenses necessary to carry out this work.

1. Permits

A valid Hazardous Waste Hauler registration is required for transporting any hazardous waste. Certain types of equipment require APCD permits (e.g., abrasive blasters).

2. Licenses

The ABATEMENT CONTRACTOR must be certified by the California Contractors State License Board. The Contractor, or its subcontractor, shall have current licenses, as required by all applicable state or local jurisdictions for the removal, transportation, disposal, or other regulated activity relative to the work described in this plan.

F. HEALTH AND SAFETY

This section describes the equipment and procedures required for protecting workers from Lead contamination and other workplace hazards.

1. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work.

2. Training

a) ABATEMENT CONTRACTOR workers shall be trained in accordance with 8CCR, Section 1532.1 (lead). In addition, workers and

supervisors must be lead-trained and have certification for lead-related work from the California Department of Public Health (CDPH).

b) Workers must be provided with initial biological monitoring (blood sampling) if they are occupationally exposed on any day to lead at or above the Action Level (AL). Employees must be provided with biological monitoring and a medical examination if they are occupationally exposed to lead above the action level for more than 30 days in any consecutive 12 month period. Periodic biological monitoring and medical examinations must be performed according to the schedule and criteria specified in T8CCR, Section 1532.1(j). In addition, employees performing “trigger” tasks must be included in biological monitoring and/or medical examinations based on their assumed exposure. In the absence of specific airborne exposure data, medical surveillance will need to be provided for all workers.

c) At a minimum, examinations shall meet all requirements as set forth in T8CCR, Section 1532.1. Furthermore, if an employee’s blood levels are at or above 20µg/dl they will not be allowed to work on the project and shall be medically removed until two consecutive blood lead tests show the employee’s blood lead level under 15µg/dl.

d) In addition, evaluations of each individual’s ability to work in environments capable of producing heat stress in the worker should be completed. Employees who wear respirators must be medically evaluated.

3. Protective clothing

a) Coveralls: Provide disposable “full body” coveralls and disposable head covers, and require that they be worn at all times by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

b) Boots: Provide work boots with non-skid soles, and where required by OSHA, foot protection for all workers. Provide boots at no cost to workers. Do not allow boots to be removed from the Work Area for any reason, after being contaminated with lead containing material. Thoroughly clean, decontaminate and bag boots before removing them from Work Area at the end of the work.

c) Hard Hats: Provide head protection (hard hats) as required by OSHA for all workers, and provide 1 spare for use by Owner's Representative, Project Administrator, and Owner. Require hard hats to be worn at all times that work is in progress that may potentially cause head injury. Provide hard hats of the type with plastic strap suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from Work Area at the end of the work.

d) Goggles: Provide eye protection (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean,

decontaminate and bag goggles before removing them from Work Area at the end of the work.

e) Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area and dispose of as lead contaminated waste at the end of the work.

4. Respirators

a) Air Purifying Respirators

(1) Respirator Bodies: Provide half face or full face type respirators based upon appropriate protection factor as determined by the ABATEMENT CONTRACTORS competent person. .

(2) Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Lead Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

(3) Non permitted respirators: Do not use single use, disposable or quarter face respirators.

(4) Require that respiratory protection be used at all times when there is any possibility of disturbance of lead containing or other hazardous materials whether intentional or accidental.

(5) Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne dust until the area has been cleared for re occupancy.

(6) Regardless of Airborne Levels: Require that the minimum level of respiratory protection used be a half-face air purifying respirators with high efficiency filters.

b) Fit testing

(1) Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of training. Only allow an individual to use respirators for which training and fit testing has been provided.

(2) Upon Each Wearing: Require that each time an air purifying respirator is put on it be checked for fit with a positive and negative pressure fit check in accordance with the manufacturer's instructions or ANSI Z88.2 (1980).

- c) Respirator cartridges, disposable coveralls, head covers, and foot covers shall be provided by the ABATEMENT CONTRACTOR for the City of San Diego's Asbestos, Lead & Mold Program's PROJECT MONITOR, and other authorized representatives who may inspect the job site. Provide six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day.
- 5. Materials and Equipment
 - a) Only material and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards, may be used.
- 6. Water Service
 - a) The ABATEMENT CONTRACTOR will be able to obtain water services from on-site facilities. The City will designate the facilities from which water service may be obtained.
- 7. Electrical Services
 - a) The ABATEMENT CONTRACTOR will be able to obtain electrical services from on-site facilities. The City will designate the facilities from which electrical services may be obtained. The ABATEMENT CONTRACTOR shall provide their own electrical hook-ups, i.e. spider boxes, ground fault circuit interrupter (GFCI) etc. and installed by a licensed electrician.
 - b) The electrical services need to comply with the applicable NEMA, NECA, and UL standards, and governing regulations for materials and lay-out of temporary electrical services.
- 8. Sanitary Facilities
 - a) The ABATEMENT CONTRACTOR shall provide sanitary facilities on-site if none have been made available by the City.
- 9. Fire Extinguisher
 - a) Applicable recommendations of the National Fire Protection Association (NFPA) Standard 10, "Standard for Portable Fire Extinguishers," must be complied with by the Contractor. Fire extinguishers need to be located where they are most convenient and effective for their intended purpose, but not less than one (1) extinguisher in each work area, the equipment room, outside/work areas, and in the clean room.
- 10. First Aid
 - a) The ABATEMENT CONTRACTOR will need to provide first aid supplies which should comply with the governing regulations and recognized recommendations within the construction industry.

G. WORK AREA PROCEDURES

1. General guidelines for performing lead hazard control activities are presented in this section and are based on procedures established by HUD for residential settings. Due to the difference between residential settings and commercial buildings, these procedures will be modified on a case-by-case basis.
2. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area.
3. ABATEMENT CONTRACTOR shall secure work area from access by public, staff, or users of the area. Accomplish this where possible, by locking doors, gates, or other means of access to the area.
4. Barricade fencing is required for securing an outside area from unauthorized access. Work area delineation shall occur at no less than twelve feet (12') from the radius of the work and/or building. Yellow caution tape shall not be used.
5. All windows, vents, mechanical systems, etc., in close proximity to the abatement area shall be sealed with plastic and tape by the ABATEMENT CONTRACTOR prior to the work beginning.
6. Warning signs for lead shall be posted as per 8CCR, Section 1532.1(m).
7. A visitor entry and exit-log, and an employee daily sign-in log will be maintained throughout the lead hazard control activities. The ABATEMENT CONTRACTOR shall be responsible for the project site security during the operations in order to protect work efforts and equipment.

H. REMOVAL OF LEAD CONTAINING MATERIALS

1. Lead containing materials shall be adequately wetted with water or a removal encapsulant before and during removal process, to reduce dust emission.
2. The ABATEMENT CONTRACTOR should exercise caution in using water, as he will be solely responsible for any water damage to the facility resulting from the work.
3. ABATEMENT CONTRACTOR is responsible for keeping all hazardous debris within the containment area at all times throughout removal. Any interior contamination, if created, is the responsibility of the ABATEMENT CONTRACTOR to clean with no additional cost to this contract.
4. ABATEMENT CONTRACTOR shall ensure there is no loose debris around the Work Area during the removal and if found, ABATEMENT CONTRACTOR shall clean the area immediately.

I. CLEANING

1. Daily cleaning includes removing large and small debris, HEPA vacuuming horizontal surfaces, wet mopping, and then HEPA vacuuming horizontal surfaces, and possible exterior cleaning.

2. Final cleaning must occur no sooner than one (1) hour after lead hazard control activities are finished. All plastic should be misted, cleaned, and folded toward the center to trap any remaining dust. The order of removal should be upper plastic, the first layer of floor plastic, vent and door plastic, the second layer of floor plastic, and finally plastic separating contaminated from non-contaminated areas. Then the entire area should be cleaned using a HEPA vacuum/wet wash/HEPA vacuum cycle. This should be from ceiling to floor. Paint or otherwise seal treated surfaces with the exception of interior floors (floors will be sealed after clearance). The Supervisor should perform an inspection for visible dust and debris.

3. Additional cleaning cycles may be necessary for porous surfaces, and difficult to clean surfaces (crevices). Failure to meet clearance criteria will require additional cleaning.

J. DECONTAMINATION PROCEDURE

1. Prior to leaving the Work Area, HEPA vacuum outer suit completely and remove, turning it inside out while doing so.

2. Proceed to decontamination area.

3. After wiping all areas and respirator, remove respirator and wipe facial area clean.

4. Place contaminated suits, towels, and respirator cartridges in a properly labeled waste containers.

5. At the completion of the project, boots, hard hats, and goggles should be decontaminated and bagged prior to removal from the Work Area.

6. Equipment leaving the Work Area should be HEPA vacuumed and wet wiped.

K. CLEARANCE

1. Clearance testing must be performed by the City's PROJECT MONITOR that is CDPH certified. It will not be performed by the ABATEMENT CONTRACTOR (although the ABATEMENT CONTRACTOR may perform their own clearance testing). Clearance testing must occur no sooner than one (1) hour after final cleaning. It consists of two steps; visual examination and possibly environmental sampling (dust and/or soil sampling).

a) Visual Examination for Determination of Completed Work:

(1) This is a determination that the work specified in the scope of work has been completed satisfactorily. For surfaces that are to be re-painted, it is important this examination occurs prior to the re-painting (to determine that either all the paint has been removed [abatement] or that the deteriorated paint has been stabilized [interim controls]). Next the surfaces should be examined for settled dust and debris. If dust or debris is visually noted, the ABATEMENT CONTRACTOR will be asked to re-clean prior to samples being collected.

(2) If no such dust/debris is found, the independent consultant or PROJECT MONITOR will complete a Certificate of Visual Inspection (Appendix B) for the area or for multiple areas. The Certified Supervisor will also sign this Certificate. The completed form should be submitted to the City at the end of the project.

2. Environmental Sampling:

a) The number and location of dust and/or soil samples will be determined on a case-by-case basis. The clearance criterion to be used is shown in the table below:

Surface	Level
(1) Interior Floors	10 µg/ft ²
(2) Interior Window Sills	100 µg/ft ²
(3) Exterior Horizontal Surfaces	400 µg/ft ²
(4) Exterior Soil*	1000 ppm
(5) Soil in Play Areas*	400 ppm

b) Re-cleaning, at the Contractor's expense, will be required for surfaces that do not pass clearance criteria.

c) The cost for additional tests, which may be required as a result of samples failing to meet the release criteria, shall be paid for the Contractor. This cost shall include all costs associated with sample analysis and collection of additional samples, including Consultant fees.

* Soil may not be impacted as a part of the proposed work, but if contamination occurs then levels shall be used for clearances. ABATEMENT CONTRACTOR may take background soil samples to determine the preexisting soil conditions.

L. TRANSPORTATION AND DISPOSAL

1. Waste minimization

a) The ABATEMENT CONTRACTOR is required to make all reasonable efforts to minimize the amount of hazardous waste generated from this project.

2. Waste characterization

a) The ABATEMENT CONTRACTOR shall test any potential hazardous waste generated in accordance with 22 CCR Division 4.5 within ten (10) days and/or prior to the end of the project to determine if it is hazardous waste and requires disposal. All paint chips will be considered hazardous waste and do not require testing. Components with lead paint that has been stabilized shall have a hazardous waste determination made prior to sending to a landfill.

3. Pre-transportation requirements

a) Any packaging used to ship hazardous waste off site such as a container, roll-off bin, tank or other device, must comply with 49 CFR

Parts 173, 178, 179 and be labeled and prepared for transportation in accordance with 22 CCR Article 3.

b) The hazardous waste label must be affixed and filled out when the first amount of hazardous waste is placed in the container. The label must include the initial accumulation date.

c) All additional pre-transportation labeling, marking or placarding must be conducted prior to transporting off site and in accordance with 22 CCR Chapter 12, Article 3.

4. All containers and tanks of hazardous waste must be managed in a way which minimizes the threat of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste to the air, soil or surface water which could threaten human health or the environment. Management techniques include containment areas capable of holding the contents of largest container within the containment area. Properly store and secure waste at all times. Do not leave hazardous waste in uncovered or unlocked trucks or dumpsters.

5. A hazardous waste manifest will be completed in accordance with 22 CCR Chapter 12, Article 2 for each shipment of hazardous waste leaving the work site. All waste shall leave the project site by the end of the project. Only The PROJECT MONITOR employees shall sign as the generator on manifests.

6. Disposal of the lead related hazardous wastes shall be by incineration unless otherwise specified by the ALMP.

APPENDIX A

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME: _____ DATE: _____

PROJECT ADDRESS: _____

CONTRACTOR'S NAME: _____

Working with lead can be dangerous. Inhaling and ingesting lead dust can cause an increase in blood lead levels which can lead to adverse health effects such as kidney damage, elevated blood pressure or infertility.

Your employer's contract with the City for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These items are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must be licensed by the California Department of Public Health for Lead Hazard Control and be able to provide onsite documentation of training. You should have been trained in the dangers inherent in handling lead and breathing and ingesting lead dust and in proper work procedures and personal and area protective measures. The topics covered in the course must have included the following:

- Possible routes of exposure to lead
- Health hazards associated with lead
- Respiratory protection
- Use of protective equipment
- Work practices including hands on or on the-job training
- Personal decontamination procedures
- Health and safety considerations

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, physical examination, a blood pressure measurement, pulmonary function test and blood sample and analysis for lead.

By signing this document you are acknowledging only that the City has advised you of your rights to training and protection relative to your employer, the Contractor.

Signature: _____ Social Security No. (Last Four): _____

Printed Name: _____

Witness (print): _____ Witness Signature: _____

APPENDIX B
CERTIFICATION OF VISUAL INSPECTION

Project # _____ Date: _____ Location: _____

Contractor: _____

The contractor hereby certifies that he/she has visually inspected the Work Area (all surfaces including pipes, counters, ledges, walls, ceiling and floor, behind critical barriers, sheet plastic, etc.) and has found no dust, debris or residue.

by: (Signature): _____ Date: _____

(Print Name): _____

(Company Name): _____

(Print Title): _____

CITY ALMP REPRESENTATIVE

The City ALMP Representative hereby certifies that he has accompanied the contractor on his/her visual inspection and verifies that this inspection has been thorough and to the best of his/her knowledge and belief, the contractor's certification above is a true and honest one.

by: (Signature): _____ Date: _____

(Print Name): _____

WORK AREA

Location: _____

Room: _____

Hazard Reduction Performed:

APPENDIX C

SUMMARY OF LEAD CONTAINING MATERIALS

READING	ROOM	SUBSTRATE	COLOR	PBC	UNITS
2001 Pan American Plaza	Exterior	Column Lights	Blue	5.9	mg/cm ²
2001 Pan American Plaza	Exterior	Column Lights	Blue	7.6	mg/cm ²
2001 Pan American Plaza	Exterior	Column Lights	Blue	5.5	mg/cm ²

APPENDIX M

FEDERAL AVIATION ADMINISTRATION AERONAUTICAL STUDY



Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2024-AWP-3043-OE

Issued Date: 06/24/2024

Jose Castaneyra
 City of San Diego
 525 B Street, Suite 750, MS 908A
 San Diego, CA 92101

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building San Diego Air & Space Museum
Location:	San Diego, CA
Latitude:	32-43-36.30N NAD 83
Longitude:	117-09-14.90W
Heights:	228 feet site elevation (SE) 90 feet above ground level (AGL) 318 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does exceed obstruction standards but would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

See attachment for additional condition(s) or information.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as

indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

If we can be of further assistance, please contact our office at (847) 294-7575, or vivian.vilaro@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-AWP-3043-OE.

Signature Control No: 614782457-625368466

(EBO)

Vivian Vilaro
Specialist

Attachment(s)
Additional Information
Map(s)

Aeronautical Study Number 2024-AWP-3043-OE

Abbreviations

VFR - Visual Flight Rules	AGL - Above Ground Level	RWY - runway
IFR - Instrument Flight Rules	MSL - Mean Sea Level	nm - nautical mile
AMSL - above mean sea level	ARP - Airport Reference Point	

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

The City of San Diego is proposing to restore the exterior historic accent lighting at the existing San Diego Air & Space Museum. The existing building at 90 feet AGL/318 feet AMSL has been identified as an obstruction under the Part 77 standard. The existing building is located 1.84 nautical miles east of the San Diego International Airport (SAN) in San Diego, CA. This building was not previously studied by FAA. The existing building exceeds the following obstruction standards.

Section 77.19(a) - A horizontal plane 150 feet above established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The existing structure exceeds SAN horizontal surface by 152 feet.

Section 77.19(d) - A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end. The proposed structure would exceed the approach surface for the existing RWY 27 by 117 feet.

It is concluded that even though the structure exceeds the VFR traffic pattern airspace (TPA), the terrain at this location is already a penetration to the TPA, the structure does not create additional adverse impact on visual flight operations, nor would it impact existing or planned minimum instrument flight procedures or altitudes.

The study also found there would be no adverse impact to FAA air navigational aids. The incorporation of obstruction marking and lighting was considered but not deemed necessary.

This aeronautical study included evaluation of a structure that exists at this time. Action will be taken to ensure aeronautical charts are updated to reflect the most current coordinates, elevation and height as indicated in the case description.

The updated information for this structure does not result in any additional adverse effect and the structure would not be a hazard to air navigation provided the conditions specified on Page 1 of this determination are met.

TOPO Map for ASN 2024-AWP-3043-OE





APPENDIX N

SAMPLE CONTRACTOR PERFORMANCE EVALUATION (CPE) FORMS



**CITY OF SAN DIEGO
CONTRACTOR PERFORMANCE EVALUATION (CPE) FORM**

Date: _____

INTERIM EVALUATION: at _____% of a _____ Working Day Calendar Day
 FINAL EVALUATION: Submitted at completion of a _____ Working Day Calendar Day

TITLE OF CONTRACT: Title of Contract

CONTRACT AMOUNT (ORIGINAL/FINAL) _____ / _____

FIRM NAME: Contractor Firm Name

FIRM ADDRESS: _____

CONTRACTOR REPRESENTATIVE'S NAME: _____

CONTRACTOR SUPERINTENDENT'S NAME: _____

CONTRACTOR FOREMAN'S NAME: _____

WBS #:

BID #:

TYPE OF WORK (CHECK ALL THAT APPLY):

TREATMENT PLANT	<input type="checkbox"/>	PUMP STATION	<input checked="" type="checkbox"/>	SEWER MAIN	<input type="checkbox"/>	STORM DRAIN	<input type="checkbox"/>
WATER MAIN	<input type="checkbox"/>	FLOOD CONTROL	<input type="checkbox"/>	ENVTL. MITIGATION	<input type="checkbox"/>	BRIDGE	<input type="checkbox"/>
STREETS/HIGHWAYS	<input type="checkbox"/>	TRAFFIC SIGNAL	<input type="checkbox"/>	STREET LIGHTS	<input type="checkbox"/>	PARK	<input type="checkbox"/>
BUILDING [specify]	<input type="checkbox"/>	PIPING SYSTEM	<input type="checkbox"/>	OTHER (SPECIFY)	<input type="checkbox"/>	_____	

CPE are one of the tools the City uses to determine if a contractor has the quality, fitness, and capacity to perform proposed work satisfactorily and is, therefore, a responsible contractor. See San Diego Municipal Code sections 22.3003 and 22.3004. This evaluation represents the observations and conclusions of the City of San Diego, prepared by City staff in the course of their official duties. The Contractor may agree with or dispute the contents and conclusions of this evaluation. Anyone not affiliated with the City of San Diego should conduct his/her investigation to confirm or dispel the conclusions expressed herein.

Notes:

- **The Contractor will be allowed (60) calendar days after notice of the final performance evaluation pursuant to SDMC 22.0806 to protest this evaluation in writing; otherwise, the City will deem the evaluation accepted by the Contractor.**
- **Refer to the end of the form for definitions used in this evaluation.**

1. Contract Administration

The Contractor's overall rating for Section 1 is (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

2. Compliance with Contract Documents

SAMPLE

The Contractor's overall rating for Section 2 is (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

3. Construction Workmanship

The Contractor's overall rating for Section 3 is (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

4. Safety

The Contractor's overall rating for Section 4 is (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

5. Storm Water / BMP Compliance

The Contractor's overall rating for Section 5 is (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

6. Cooperation, Professionalism, Communication & Public Outreach

The Contractor's overall rating for Section 6 is (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

7. Subcontracting Performance and Management

The Contractor's overall rating for Section 7 is (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

OVERALL EVALUATION

THE OVERALL EVALUATION IS DERIVED FROM THE HOLISTIC REVIEW OF THE SEVEN FACTORS ABOVE.

The Contractor's overall rating (check one):

- Outstanding Above Satisfactory Satisfactory Needs Improvement Unsatisfactory

OVERALL SUMMARY:

Title of Contract: Title of Contract
Evaluation of: Contractor Firm Name

Date:
Page 6 of 9

RESIDENT ENGINEER

SUPERVISOR

By:

(signature / date)

(signature / date)

(print name)

(print name)

Section Head's Initial _____

Asst. Deputy Director's Initials _____

ADD:

Date: _____

CC:

- Contractor
- Program Coordinator, Engineering & Capital Projects/Contracting Group, Pre-qualification Program
- Director, Purchasing & Contracting
- Deputy Director, Purchasing & Contracting
- eFile CityHub/SDShare

SAMPLE

Definitions:

1. **Performance Areas** - These include the Contractor's record of conforming to the requirements and standards of Contract Administration, Compliance with Contract Documents, Construction Workmanship, Safety, Stormwater Best Management Practices, Cooperation, Professionalism, Communication and Public Outreach, and Subcontracting Performance and Management.

Here are definitions for the specified terms within the context of contractor performance areas:

- Contract Administration: Managing all aspects of a construction contract to ensure compliance with its terms and conditions. This includes handling project documentation, managing changes or modifications, e.g., requests for changes, processing payments, monitoring timelines, requests for information, submittals, resolving disputes, and ensuring all parties fulfill their contractual obligations.
- Compliance with Contract Documents: Adherence to the plans, specifications, and other legally binding documents that outline the scope of work, quality standards, and technical requirements. This involves ensuring all construction activities align with approved designs, materials, and regulations specified in the contract.
- Construction Workmanship: The quality and standard of the physical work performed on the project. It reflects the Contractor's ability to deliver durable, precise, and code-compliant construction through skilled labor and proper techniques specified in the contract.
- Safety: Implementing and maintaining measures to protect workers, site visitors, and the public from hazards. This includes compliance with Occupational Safety and Health Administration standards, site-specific safety plans, and accident prevention strategies throughout the project lifecycle.
- Stormwater Best Management Practices (BMPs): Techniques and measures used to control and reduce the impact of stormwater runoff during and after construction. This includes erosion control, sediment barriers, proper waste management, and other strategies to minimize pollution and protect water quality in compliance with environmental regulations.
- Cooperation: The Contractor's ability to work collaboratively and effectively with the City, subcontractors, government agencies, and other stakeholders. This involves being responsive and adaptable and maintaining a solution-oriented approach to project challenges.
- Professionalism: Demonstrating ethical conduct, integrity, and respect in all aspects of the Contractor's work. It includes maintaining a positive work environment, adhering to industry standards, and fostering trust through reliable and responsible business practices.
- Communication and Public Outreach: Providing clear, timely, and accurate information to stakeholders and the public as specified in the Contract Documents. This involves regular project updates, responding to concerns, and maintaining transparency to build positive community relations and ensure all parties remain informed.
- Subcontracting Performance and Management: The contractor's ability to select, oversee, and coordinate Subcontractors to ensure their work meets quality standards, deadlines, and compliance requirements. Effective management includes monitoring performance, enforcing contractual terms, and resolving issues to maintain project continuity.

The above criteria are not equally weighted. For example, though the Contractor may receive an outstanding rating for Contract Administration, Cooperation, Professionalism and/or Communication, the frequent lapses in safety on the job site or disregard for stormwater compliance resulting in serious injury or damages on site justify the Contractor receiving an overall unsatisfactory rating. Therefore, in the context of the Contractor performance ratings, the definitions can be adjusted to focus more on the quality of the Work, timeliness, and adherence to safety standards than other areas.

2. **Performance Rating** - See below for a breakdown of the Contractor's performance rating definitions. These definitions provide a set of expectations across multiple areas of the Contractor's performance, ensuring the Contractor is evaluated holistically on various critical aspects of contract execution.

a) Outstanding:

- Contract Administration: Consistently submits all required documentation on time and maintains proper documentation. Fully adheres to the contract's terms and proactively resolves any issues.
- Compliance with Contract Documents: Demonstrates full understanding of and strict adherence to Contract Documents. Any changes or deviations are well-communicated and documented.
- Construction Workmanship: The quality of the Work consistently exceeds expectations, with few to no defects, attention to detail, and thorough craftsmanship.

- Safety: Safety is a top priority, with zero safety incidents, proactive safety training, and implementing additional safety measures beyond required.
- Storm Water Best Management Practices: Consistently implements and exceeds all environmental guidelines for stormwater management and addresses issues before they arise.
- Cooperation: Fully cooperative with all stakeholders, including the client, Subcontractors, and suppliers, with a strong emphasis on team collaboration and problem-solving.
- Professionalism: Maintains the highest standards of conduct, integrity, and respect in all dealings with stakeholders and regulatory agencies.
- Communication and Public Outreach: Regularly updates stakeholders, responds promptly to concerns, and engages with the public in a respectful and transparent manner. Issues are resolved proactively.
- Subcontracting Performance and Management: Subcontractors are managed effectively, adhering to contract terms and producing high-quality work. Coordination between Subcontractors is seamless.

b) Above Satisfactory:

- Contract Administration: Completes necessary documentation with minimal errors and on time. Any issues or changes are addressed promptly.
- Compliance with Contract Documents: Follows Contract Documents well, with only minor discrepancies or deviations that are communicated and resolved.
- Construction Workmanship: Work quality is generally excellent, with a few minor issues or areas for improvement that are promptly corrected.
- Safety: Strong safety record, with minor issues addressed quickly. Safety practices generally meet or exceed expectations.
- Stormwater Best Management Practices: Stormwater management practices are followed effectively, with few issues. Implements best practices and corrects problems when they arise.
- Cooperation: Works well with all parties, addressing issues with minimal conflict. Collaboration is generally smooth.
- Professionalism: Maintains a professional demeanor, resolving conflicts appropriately, and adhering to industry standards.
- Communication and Public Outreach: Communication is proactive and responsive, with timely updates to stakeholders and the public. Public outreach is effective but could be more frequent.
- Subcontracting Performance and Management: Subcontractors are effectively managed, but minor coordination issues may arise. Work is generally on time and meets the standards.

c) Satisfactory:

- Contract Administration: Documentation is completed as required, with occasional delays or missing information. Issues are resolved, but reminders may be required.
- Compliance with Contract Documents: Generally, complies with contract documents, with occasional deviations addressed upon discovery but may result in delays or minor issues.
- Construction Workmanship: Meets the minimum expected quality, with some defects or areas that could be improved. Issues are typically addressed once raised.
- Safety: Safety protocols are followed, though there may be occasional minor incidents or near-misses. The overall safety record is acceptable but not exemplary.
- Stormwater Best Management Practices: Meets basic requirements for stormwater management but may not always go above and beyond to exceed environmental standards.
- Cooperation: Cooperation with others is generally acceptable but may not be proactive. Occasionally requires intervention to resolve conflicts or issues.

- Professionalism: Conducts business professionally, though there may be occasional lapses in communication or judgment.
- Communication and Public Outreach: Provides regular updates but may not always engage proactively with stakeholders or the public. Responses are typically timely but occasionally delayed.
- Subcontracting Performance and Management: Subcontractors are managed adequately, though there may be some delays or quality issues. Coordination could be improved.

d) Needs Improvement:

- Contract Administration: Frequently submits documentation late or incomplete. Requires frequent reminders to stay on track with contract requirements.
- Compliance with Contract Documents: Regularly deviates from contract documents or fails to follow specifications. Changes or deviations are not always communicated effectively.
- Construction Workmanship: Work quality does not consistently meet the minimum standards. There are frequent defects or the need for rework.
- Safety: Safety violations occur, or safety protocols are inconsistently followed. There are notable safety incidents or risks that need to be addressed.
- Stormwater Best Management Practices: Fails to comply consistently with stormwater management practices, leading to potential environmental concerns or violations.
- Cooperation: Struggles to cooperate with others, leading to frequent conflicts, delays, or miscommunications.
- Professionalism: Displays unprofessional behavior, including poor communication, lack of respect for other stakeholders, or failure to resolve conflicts properly.
- Communication and Public Outreach: Communication is often reactive rather than proactive, failing to inform stakeholders or the public promptly or transparently.
- Subcontracting Performance and Management: Subcontractors are not properly managed, leading to frequent delays, quality issues, or resource mismanagement.

e) Unsatisfactory:

- Contract Administration: Consistently fails to submit required documentation, and there are significant discrepancies or ongoing issues with contract compliance.
- Compliance with Contract Documents: Major deviations from contract documents are frequent and unaddressed. The Contractor fails to follow essential specifications or standards.
- Construction Workmanship: The quality of the Work is consistently poor, with widespread defects and the need for significant rework. It is below industry standards.
- Safety: Serious safety violations or significant incidents affecting worker safety or project progress. Safety regulations are often ignored or not implemented.
- Stormwater Best Management Practices: Failure to implement or adhere to environmental best practices leads to violations or significant environmental impacts.
- Cooperation: Exhibits a lack of cooperation, leading to frequent conflicts with stakeholders, delays, and disruptions in project progress.
- Professionalism: Consistently unprofessional behavior, lack of integrity, failure to meet basic expectations for respect and conduct.
- Communication and Public Outreach: Poor or nonexistent communication, leaving stakeholders or the public uninformed. Issues are ignored or not addressed on time.
- Subcontracting Performance and Management: Subcontractors are poorly managed, leading to significant delays, quality issues, or violations of contract terms. Coordination and oversight are lacking.

APPENDIX O

HAZARDOUS WASTE LABELS/FORMS

HAZARDOUS WASTE

STATE AND FEDERAL LAW PROHIBITS IMPROPER DISPOSAL
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY
OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES

GENERATOR NAME _____
ADDRESS _____ 24 HR. PHONE () _____
CITY _____ STATE _____ ZIP _____
EPA ID NO. _____ MANIFEST DOCUMENT NO. _____
EPA WASTE NO. _____ CA WASTE NO. _____ ACCUMULATION START DATE / / _____

CONTENTS, COMPOSITION _____
PROPER DOT SHIPPING NAME _____
TECHNICAL NAME (S) _____
UNNA NO. WITH PREFIX _____
PHYSICAL STATE HAZARDOUS PROPERTIES FLAMMABLE TOXIC
 SOLID LIQUID CORROSIVE REACTIVE OTHER _____

HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES

INCIDENT/RELEASE ASSESSMENT FORM ¹

If you have an emergency, Call 911

Handlers of hazardous materials are required to report releases. The following is a tool to be used for assessing if a release is reportable. Additionally, a non-reportable release incident form is provided to document why a release is not reported (see back).

Questions for Incident Assessment:

	YES	NO
1. Was anyone killed or injured, or did they require medical care or admitted to a hospital for observation?	<input type="checkbox"/>	<input type="checkbox"/>
2. Did anyone, other than employees in the immediate area of the release, evacuate?	<input type="checkbox"/>	<input type="checkbox"/>
3. Did the release cause off-site damage to public or private property?	<input type="checkbox"/>	<input type="checkbox"/>
4. Is the release greater than or equal to a reportable quantity (RQ)?	<input type="checkbox"/>	<input type="checkbox"/>
5. Was there an uncontrolled or unpermitted release to the air?	<input type="checkbox"/>	<input type="checkbox"/>
6. Did an uncontrolled or unpermitted release escape secondary containment, or extend into any sewers, storm water conveyance systems, utility vaults and conduits, wetlands, waterways, public roads, or off site?	<input type="checkbox"/>	<input type="checkbox"/>
7. Will control, containment, decontamination, and/or clean up require the assistance of federal, state, county, or municipal response elements?	<input type="checkbox"/>	<input type="checkbox"/>
8. Was the release or threatened release involving an unknown material or contains an unknown hazardous constituent?	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the incident a threatened release (a condition creating a substantial probability of harm that requires immediate action to prevent, reduce, or mitigate damages to persons, property, or the environment)?	<input type="checkbox"/>	<input type="checkbox"/>
10. Is there an increased potential for secondary effects including fire, explosion, line rupture, equipment failure, or other outcomes that may endanger or cause exposure to employees, the general public, or the environment?	<input type="checkbox"/>	<input type="checkbox"/>

If the answer is YES to any of the above questions – report the release to the California Office of Emergency Services at 800-852-7550 and the local CUPA daytime: (619) 338-2284, after hours: (858) 565-5255. Note: other state and federal agencies may require notification depending on the circumstances.

Call 911 in an emergency

If all answers are NO, complete a Non Reportable Release Incident Form (page 2 of 2) and keep readily available. Documenting why a “no” response was made to each question will serve useful in the event questions are asked in the future, and to justify not reporting to an outside regulatory agency.

If in doubt, report the release.

¹ This document is a guide for accessing when hazardous materials release reporting is required by Chapter 6.95 of the California Health and Safety Code. It does not replace good judgment, Chapter 6.95, or other state or federal release reporting requirements.

NON REPORTABLE RELEASE INCIDENT FORM

1. RELEASE AND RESPONSE DESCRIPTION

Incident # _____

Date/Time Discovered	Date/Time Discharge	Discharge Stopped <input type="checkbox"/> Yes <input type="checkbox"/> No
Incident Date / Time:		
Incident Business / Site Name:		
Incident Address:		
Other Locators (Bldg, Room, Oil Field, Lease, Well #, GIS)		
Please describe the incident and indicate specific causes and area affected. Photos Attached?: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Indicate actions to be taken to prevent similar releases from occurring in the future.		

2. ADMINISTRATIVE INFORMATION

Supervisor in charge at time of incident:	Phone:
Contact Person:	Phone:

3. CHEMICAL INFORMATION

Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT ³
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT ³
Chemical	Quantity <input type="checkbox"/> GAL <input type="checkbox"/> LBS <input type="checkbox"/> FT ³
Clean-Up Procedures & Timeline:	
Completed By:	Phone:
Print Name:	Title:

EMERGENCY RELEASE FOLLOW - UP NOTICE REPORTING FORM

A	BUSINESS NAME	FACILITY EMERGENCY CONTACT & PHONE NUMBER () -						
B	INCIDENT DATE	MO	DAY	YR	TIME OES NOTIFIED	(use 24 hr time)	OES CONTROL NO.	
C	INCIDENT ADDRESS LOCATION			CITY / COMMUNITY	COUNTY	ZIP		
D	CHEMICAL OR TRADE NAME (print or type)					CAS Number		
D	CHECK IF CHEMICAL IS LISTED IN 40 CFR 355, APPENDIX A <input type="checkbox"/>				CHECK IF RELEASE REQUIRES NOTIFICATION UNDER 42 U.S.C. Section 9603 (a) <input type="checkbox"/>			
D	PHYSICAL STATE CONTAINED		PHYSICAL STATE RELEASED			QUANTITY RELEASED		
	<input type="checkbox"/> SOLID	<input type="checkbox"/> LIQUID	<input type="checkbox"/> GAS	<input type="checkbox"/> SOLID	<input type="checkbox"/> LIQUID	<input type="checkbox"/> GAS		
D	ENVIRONMENTAL CONTAMINATION			TIME OF RELEASE	DURATION OF RELEASE			
	<input type="checkbox"/> AIR	<input type="checkbox"/> WATER	<input type="checkbox"/> GROUND	<input type="checkbox"/> OTHER			— DAYS — HOURS — MINUTES	
E	ACTIONS TAKEN							
F	KNOWN OR ANTICIPATED HEALTH EFFECTS (Use the comments section for addition information)							
	<input type="checkbox"/> ACUTE OR IMMEDIATE (explain) _____							
	<input type="checkbox"/> CHRONIC OR DELAYED (explain) _____							
	<input type="checkbox"/> NOTKNOWN (explain) _____							
G	ADVICE REGARDING MEDICAL ATTENTION NECESSARY FOR EXPOSED INDIVIDUALS							
H	COMMENTS (INDICATE SECTION (A - G) AND ITEM WITH COMMENTS OR ADDITIONAL INFORMATION)							
I	CERTIFICATION: I certify under penalty of law that I have personally examined and I am familiar with the information submitted and believe the submitted information is true, accurate, and complete.							
	REPORTING FACILITY REPRESENTATIVE (print or type) _____							
	SIGNATURE OF REPORTING FACILITY REPRESENTATIVE _____							DATE: _____

EMERGENCY RELEASE FOLLOW-UP NOTICE REPORTING FORM INSTRUCTIONS

GENERAL INFORMATION:

Chapter 6.95 of Division 20 of the California Health and Safety Code requires that written emergency release follow-up notices prepared pursuant to 42 U.S.C. § 11004, be submitted using this reporting form. Non-permitted releases of reportable quantities of Extremely Hazardous Substances (listed in 40 CFR 355, appendix A) or of chemicals that require release reporting under section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [42 U.S.C. § 9603(a)] must be reported on the form, as soon as practicable, but no later than 30 days, following a release. The written follow-up report is required in addition to the verbal notification.

BASIC INSTRUCTIONS:

- The form, when filled out, reports follow-up information required by 42 U.S.C § 11004. Ensure that all information requested by the form is provided as completely as possible.
- If the incident involves reportable releases of more than one chemical, prepare one report form for each chemical released.
- If the incident involves a series of separate releases of chemical(s) at different times, the releases should be reported on separate reporting forms.

SPECIFIC INSTRUCTIONS:

Block A: Enter the name of the business and the name and phone number of a contact person who can provide detailed facility information concerning the release.

Block B: Enter the date of the incident and the time that verbal notification was made to OES. The OES control number is provided to the caller by OES at the time verbal notification is made. Enter this control number in the space provided.

Block C: Provide information pertaining to the location where the release occurred. Include the street address, the city or community, the county and the zip code.

Block D: Provide information concerning the specific chemical that was released. Include the chemical or trade name and the Chemical Abstract Service (CAS) number. Check all categories that apply. Provide best available information on quantity, time and duration of the release.

Block E: Indicate all actions taken to respond to and contain the release as specified in 42 U.S.C. § 11004(c).

Block F: Check the categories that apply to the health effects that occurred or could result from the release. Provide an explanation or description of the effects in the space provided. Use Block H for additional comments/information if necessary to meet requirements specified in 42 U.S.C. § 11004(c).

Block G: Include information on the type of medical attention required for exposure to the chemical released. Indicate when and how this information was made available to individuals exposed and to medical personnel, if appropriate for the incident, as specified in 42 U.S.C. § 11004(c).

Block H: List any additional pertinent information.

Block I: Print or type the name of the facility representative submitting the report. Include the official signature and the date that the form was prepared.

MAIL THE COMPLETED REPORT TO:

**State Emergency Response Commission (SERC)
Attn: Section 304 Reports
Hazardous Materials Unit
3650 Schriever Avenue
Mather, CA 95655**

NOTE: Authority cited: Sections 25503, 25503.1 and 25507.1, Health and Safety Code. Reference: Sections 25503(b)(4), 25503.1, 25507.1, 25518 and 25520, Health and Safety Code.

ATTACHMENT F

**IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION)
COMPLIANCE (CARB)**

ATTACHMENT F

IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE

The California Air Resources Board (CARB) approved amendments to the Off-Road Regulations which can be found at 13 California Code of Regulations (CCR) sections 2449, 2449.1, and 2449.2. These amendments apply to any person, business, or government agency who owns or operates within California any vehicles with a diesel-fueled or alternative diesel fueled off-road compression-ignition engine with maximum power (max hp) of 25 horsepower (hp) or greater provided that the vehicle cannot be registered and driven safely on-road or was not designed to be driven on-road, even if it has been modified so that it can be driven safely on-road. See 13 CCR section 2449 (b) for the full list of vehicles covered by these Off-Road Regulations.

Beginning **January 1, 2024**, Contractor shall be subject to the requirements below. No Contractor or public works awarding body, as applicable, shall enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet. Contractor shall comply with the following requirements:

- (1) For a project involving the use of vehicles subject to the Off-Road Regulation, Contractor must obtain copies of the valid Certificates of Reported Compliance, as described in 13 CCR section 2449(n), for the fleet selected for this Contract and their listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet and provide copies of such Certificates of Reported Compliance to the City within 10 days of issuance of the Notice of Intent to Award letter. Contractor shall enter into a contract with a fleet for which it does not have a valid Certificates of Reported Compliance for the fleet and its listed subcontractors. City shall not enter into a contract with Contractor until all current Certificates of Reported Compliance for the fleet to be used on this Project are provided by Contractor.
- (2) The Certificates of Reported Compliance received by Contractor for this Project must be retained by Contractor for three years after the Project's completion. Upon request by CARB, these records must be provided to CARB within five business days of the request. Additionally, upon request by City, these records must be produced to City within five business days of the request.
- (3) For emergency contracts that meet the definition of "emergency operations" as defined in 13 CCR section 2449(c)(18), they are exempt from the requirements in 13 CCR section 2449(i)(1)-(3) and sections (1) and (2) above, but must still retain records verifying vehicles subject to the regulation that are operating on the "emergency operations" project are actually being operated on the project for "emergency operations" only. These records, as described in more detail below in section (B) must be retained by Contractor for three years after completion of the Project and upon request from either CARB or the City, Contractor shall provide those records to the requesting party within five business days. All other emergency contracts that do not meet the definition of "emergency operations" must comply with the requirements above and 13 CCR section 2449(i)(1) – (3).

- A. "Emergency Operations" is defined as:
1. Any activity for a project conducted during emergency, life threatening situations, where a sudden, unexpected occurrence that poses a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or an essential public service; or in conjunction with any officially declared disaster or state of emergency, as declared by an authorized health officer, agricultural commissioner, fire protection officer, or other authorized health officer;
 2. Any activity for a project conducted by essential service utilities to provide electricity, natural gas, telephone, water, or sewer during periods of service outages and emergency; or
 3. Operations including repairing or preventing damage to roads, buildings, terrain, and infrastructure as a result of an earthquake, flood, storm, fire, other infrequent act of nature, or terrorism. Routine maintenance or construction to prevent public health risks does not constitute emergency operations under the Off-Road Regulations.
- B. The records retained by Contractor for "emergency operations" projects must include:
1. A description of the emergency;
 2. The address or a description of the specific location of the emergency;
 3. The dates on which the emergency operations were performed; and
 4. An attestation by the fleet that the vehicles are operated on the Project for "emergency operations" only.

Beginning **January 1, 2024**, Contractor is also subject to the requirements described in 13 CCR section 2449(j).

- (1) Between March 1 and June 1 of each year, Contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in 13 CCR section 2449(n), from all fleets that have an ongoing contract with Contractor as of March 1 of that year. Contractors shall not write contracts to evade this requirement.
- (2) Contractor shall only allow fleets with valid Certificates of Reported Compliance on the Contractor's job sites.
- (3) If Contractor discovers that any fleet intending to operate vehicles subject to this regulation for Contractor does not have a valid Certificate of Reported Compliance, as defined in 13 CCR section 2449(n), or if Contractor observes any noncompliant vehicles subject to the regulation on Contractor's job site, then Contractor must report the that to CARB at <https://calepacomplaints.secure.force.com/complaints/Complaint>, or email dieselcomplaints@arb.ca.gov, for each fleet without a valid Certificate of Reported Compliance or each noncompliant vehicle,

as applicable, within five business days of such discovery. See 13 CCR 2449(n) for the information required to be disclosed to CARB when reporting non-compliance.

(4) Upon request by CARB, Contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to this regulation operating at the job site or for Contractor.

(5) Contractor shall prominently display signage for any project where vehicles subject to this Off-Road Regulation will operate for 8 calendar days or more. The signage must be posted by the eighth calendar day from which the first vehicle operates. The signage will be in lettering larger than size 14-point type and displayed in a conspicuous place where notices to employees are customarily posted at the job site or where there is employee foot traffic. If one of the above locations is also viewable by the public, it should be posted at that location. An exemption to this posting requirement is permitted if the operational time of a project is 7 calendar days or less. The signage must include the following language, verbatim:

(A) Who does the In-Use Off-Road Regulation Apply to?

The In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation) applies to all self-propelled off-road diesel vehicles 25 horsepower or greater and most two-engine vehicles (except on-road two-engine sweepers) owned or operated in California. This includes vehicles that are rented or leased (rental or leased fleets)."

(B) "In-Use Off-Road Regulation Requirements

Idling Limit: Vehicles cannot idle longer than five minutes. There are exceptions for vehicles that need to idle to perform work.

Labeling: Vehicles must be labeled with a CARB assigned equipment identification number (EIN). The EIN shall be white on a red background, unless the vehicle is part of a captive attainment area fleet, in which case the EIN shall be white on a green background.

The EIN shall be located in clear view on both sides of the outside of the vehicle."

ATTACHMENT G
CONTRACT AGREEMENT

ATTACHMENT G
CONTRACT AGREEMENT

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and SOLPAC Construction, Inc. dba Soltek Construction Company, herein called "Contractor" for construction of Air & Space Museum Roof Replacement; Bid No. **K-25-2396-DBB-3-A**; in the total amount of Seven Million Eight Hundred Seventy Eight Thousand Five Hundred Sixty Eight Dollars and Zero Cents (\$7,878,568.00).

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 Instruction to Bidders and the Supplementary Special Provisions (SSP).
 - (d) That certain documents entitled **AIR & SPACE MUSEUM ROOF REPLACEMENT**, on file in the office of the Purchasing & Contracting Department as Document No. **B-20116**, 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 **AIR & SPACE MUSEUM ROOF REPLACEMENT**, Bid Number **K-25-2396-DBB-3-A**, 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 and is approved by the City Attorney in accordance with San Diego Charter Section 40.

CONTRACT AGREEMENT (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.

CONTRACTOR

BRHS

By _____

Print Name: Brandon Richie

Title: CEO

Date: 3/25/2026

City of San Diego License No.: B2007002427

State Contractor's License No.: 886641

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000000370

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

Heather Ferbert, City Attorney

By: Beric Doringo

By: Ray Polanco

Print Name: Beric Doringo
Deputy Director
Purchasing & Contracting Department

Print Name: Ray Polanco
Deputy City Attorney

Date: 5/15/2026

Date: 5/20/26

ATTACHMENT H
PROJECT LABOR AGREEMENT (PLA)

ORIGINAL

**CITY OF SAN DIEGO
PROJECT LABOR AGREEMENT
FOR
CITY-PROCURED CAPITAL IMPROVEMENT PROJECTS
AND OTHER PROJECTS**

DOCUMENT NO 00- 21764
FILED FEB 13 2024
OFFICE OF THE CITY CLERK
SAN DIEGO, CALIFORNIA

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CITY OF SAN DIEGO
PROJECT LABOR AGREEMENT
FOR
CITY-PROCURED CAPITAL IMPROVEMENT PROJECTS
AND OTHER PROJECTS

This Project Labor Agreement (“PLA”) is entered into by and between the City of San Diego (“City”), the San Diego County Building and Construction Trades Council, AFL-CIO (“Council”), and the signatory Craft Unions (“Unions”).

ARTICLE 1
RECITALS

WHEREAS, this PLA will be beneficial to the efficient delivery of City-procured projects included in the City’s adopted Capital Improvements Program budget and other projects specifically identified by the City that are of regional significance critical to the safety, economic sustainability, and quality of life of the citizens of San Diego; and

WHEREAS, the City is committed to creating programs that provide access to a skilled and trained workforce and address the needs of underserved groups who have historically experienced significant barriers to participating in employment within the construction industry. Through the construction of City-procured projects included in the City’s adopted Capital Improvements Program budget, the City aims to create economically sustainable benefits to the region, derived from employment and training programs to help individuals that are historically marginalized. The City supports policies that create careers, advance equity, and assist vulnerable individuals located in underserved communities; and

WHEREAS, the City desires the completion of the Covered Projects in a professional, safe, efficient, and economical manner, without undue delay or work stoppage; and

WHEREAS, the successful completion of Covered Projects are of the utmost importance to the San Diego region; and

WHEREAS, the Parties have pledged their full commitment to work towards a mutually satisfactory completion of the Covered Projects; and

WHEREAS, large numbers of workers of various skills will be required in the performance of the construction work on the Covered Projects, including workers affiliated with and/or represented by the Unions; and

WHEREAS, it is recognized that on construction projects with multiple contractors and bargaining units on the job site at the same time over an extended period of time, the potential for work disruption is substantial without an overriding commitment to maintain continuity of work; and

WHEREAS, the Parties agree that by establishing and stabilizing wages, hours, and working conditions for the workers employed on the Covered Projects, a satisfactory, continuous, and harmonious relationship will exist among labor and management that will lead to the efficient and economical completion of Covered Projects; and

WHEREAS, in recognition of the special needs of the Covered Projects and to maintain a spirit of harmony, labor-management relations, peace, and stability during the term of this PLA, the Parties agree to establish effective and binding methods for the settlement of all misunderstandings, disputes and grievances without any strikes, slowdowns, work interruptions, or disruption of Covered Projects, and the Contractors agree not to engage in any lockout; and

WHEREAS, the City places high priority upon the development of comprehensive programs for the recruitment, training, and employment of Local Workers and Targeted Workers, and also recognizes the ability of local Apprenticeship Programs to provide meaningful and sustainable careers in the building and construction industry. The City, Contractors and Unions will encourage Local Workers and Targeted Workers to participate in Covered Projects through programs and procedures jointly developed to prepare and encourage such individuals for entrance into Apprenticeship Programs and formal employment on the Covered Projects through the referral programs sponsored and/or supported by the Parties to this PLA; and

WHEREAS, the Covered Projects will provide opportunities for Disadvantaged Businesses to participate as Contractors, subcontractors, or suppliers, and the Parties therefore agree that they will cooperate with all efforts of the City, the Project Labor Coordinator, Contractors and other organizations retained by the City for this purpose, to encourage and assist the participation of Disadvantaged Businesses in the Covered Projects. Specifically, Contractors and Unions understand that the City has established and quantified goals which place a strong emphasis on the utilization of Disadvantaged Businesses on Covered Projects. The City, Contractors and Unions shall participate in outreach programs and provide education and assistance to businesses not familiar with working on projects of this scope. Further, the Parties shall ensure that the provisions of this PLA do not inadvertently establish impediments to participation of such Disadvantaged Businesses, Local Workers and Targeted Workers; and

WHEREAS, it is further understood that the City shall administer the obligations under this PLA to ensure that the benefits of the PLA flow to all signatory Parties, Contractors, craft persons working under it, and residents of the San Diego region. The City may designate a Project Labor Coordinator, either from its own staff and/or a consultant acting on behalf of the City, to monitor compliance with the PLA. The Project Labor Coordinator, as the authorized representative of the City, will assist with the development and implementation of the programs referenced in this PLA, all of which are critical to fulfilling the intent and purposes of the Parties and this PLA.

NOW, THEREFORE, IT IS AGREED BETWEEN AND AMONG THE PARTIES AS FOLLOWS:

ARTICLE 2

DEFINITIONS

Capitalized terms utilized in this PLA which are not otherwise defined herein shall have the meanings ascribed to said terms below. All definitions include both singular and plural forms.

“Applicable Prevailing Wage Laws” means the prevailing wage laws, regulations, and determinations applicable to a Covered Project pursuant to the State of California Labor Code and/or the Davis-Bacon Act and related federal laws.

“Apprentice” means an apprentice properly registered in an Apprenticeship Program for the entire time they are employed on a Covered Project.

“Apprenticeship Program” means an apprenticeship program (i) approved by the State of California’s Division of Apprenticeship Standards; (ii) registered with the U.S. Department of Labor; or (iii) registered with a State Apprenticeship Agency granted authority by the U.S. Department of Labor to register apprenticeship programs for federal purposes, pursuant to 29 CFR Part 29.

“Apprenticeship Readiness Program” means an apprenticeship readiness program authorized by North America’s Building Trades Unions and the Council to teach the Multi-Craft Core Curriculum (MC3) and prepare Local Workers and Targeted Workers for entry into Apprenticeship Programs.

“City” means the City of San Diego.

“Contractor” means the Prime Contractor and any subcontractor of any tier awarded Covered Work. The term “Contractor” includes any individual, firm, partnership, corporation, owner operator, consultant or combination thereof, including joint ventures, performing Covered Work.

“Core Employee” is defined in Article 4, Section 4.6(a).

“Council” means the San Diego County Building & Construction Trades Council.

“Covered Contract” means a prime contract or subcontract awarded for performance of Covered Work.

“Covered Professional Services Agreement” means either (1) a project specific consultant agreement for an individual Covered Project that includes Covered Work or (2) the following specialized as-needed consultant agreements that include Covered Work: (a) as needed construction management services; (b) as-needed geotechnical engineering services; (c) as-needed land surveying, mapping, and digitizing services; and (d) as-needed material testing services.

“Covered Project” means either: (1) a City-procured construction project included in the City’s adopted Capital Improvements Program budget that is advertised with a City-estimated construction contract value of: (a) at least \$5 million in the first and second years of this PLA (July 1, 2024 to June 30, 2026); or (b) more than \$1 million thereafter; or (2) a construction project that is not procured by the City, but which is enumerated on Attachment A and for which a bid is advertised during the term of this PLA. The City Council may, by resolution at its sole discretion, include other construction projects for coverage under the PLA or exclude a Covered Project from coverage under the PLA.

“Covered Work” means construction work on a Covered Project, except for work that is excluded under a specific exemption in this PLA. Covered Work also includes work identified as requiring payment of prevailing wages under the State of California general prevailing wage determination for Field Surveyor and/or Building/Construction Inspector and Field Soils and Material Tester in a Covered Professional Services Agreement. The scope of work includes: making precise measurements to determine relative position or as-built locations; providing stakes, markers, or similar information for location or construction in support of construction operations; field surveying services to support work performed under the direction of a Licensed Land Surveyor or Civil Engineer; field inspections and testing for reinforced concrete, soils, structural masonry, prestressed concrete, structural steel and welding, and other construction materials used in buildings, roads, and related projects. In the event work is referred to by such terms as “quality control” or “quality assurance,” such work shall be included under the PLA if it satisfies the above criteria.

“Disadvantaged Business” means a business that is either: (1) a Disadvantaged Business Enterprise pursuant to 49 C.F.R §26.5 that has been certified by either the California Department of Transportation (“Caltrans”) or a Caltrans-approved California certifying agency; (2) a Minority Business Enterprise or a Woman Business Enterprise certified by Caltrans, a Caltrans-approved certifying agency or the California Public Utilities Commission (“CPUC”); or (3) a Small Local Business Enterprises or Emerging Local Business Enterprises certified by the City of San Diego.

“Jobs Coordinator” means an independent third-party individual, entity or employee with whom the Prime Contractor enters into a contract or employs to assist the Contractor with achieving and exceeding the Local Worker and Targeted Worker goals set forth in Section 4.5 of this PLA. The City may elect to assign City staff to perform the duties of the “Jobs Coordinator.”

“Local Worker” means an individual domiciled in San Diego County, CA or a Veteran residing anywhere. “Domiciled” has the meaning set forth in section 349(b) of the California Election Code, indicating a fixed address with intent of continued residency.

“Master Agreement” means the local master labor agreement of a Union.

“Parties” means the City, the Council, and Unions.

“Prime Contractor” means the contractor awarded a Covered Contract in privity directly with the City.

“Project Labor Coordinator” means the designee(s) of the City, either from its own staff and/or a consultant acting on behalf of the City, to monitor compliance with this PLA and assist with developing, implementing and administering the requirements, policies and programs referenced herein.

“Targeted Worker” means any individual qualifying for one or more of the following categories, at initial time of employment on the Covered Project in question:

- (a) is a Veteran;
- (b) is an Apprentice with less than fifteen percent of the work hours required for completion of the Apprenticeship Program;
- (c) has no high school diploma or general education diploma (GED);
- (d) is homeless or has been homeless within the last year;
- (e) is a former foster youth;
- (f) is a custodial single parent;
- (g) is experiencing protracted unemployment (defined as receiving unemployment benefits for at least three months);
- (h) is a current recipient of government cash or food assistance benefits;
- (i) has a documented income at or below 100 percent of the Federal Poverty Level;
- (j) has spent time in a jail, a youth correctional facility or a prison; or
- (k) is a graduate of an Apprenticeship Readiness Program approved to use the Multi-Craft Core Curriculum (MC3).

“Union” means any labor organization signatory to this PLA.

“Veteran” means a veteran or the eligible spouse of a veteran of the United States armed forces, under Section 2(a) of the Jobs for Veterans Act (38 U.S.C. §4215(a)).

“Workforce Dispatch Request Form” means the project-specific form by which Contractors request workers from the Union hiring halls on Covered Projects, an example of which is attached as Attachment C-1.

ARTICLE 3
SCOPE OF THE PLA

Section 3.1 This PLA is limited to covering all onsite construction work on Covered Projects within the scope of each Covered Contract.

Section 3.2 Exclusions. Items specifically excluded from the scope of this PLA include the following:

- (a) Work of non-manual employees, including but not limited to, superintendents, supervisors, staff engineers, quality control and quality assurance personnel (subject to definition of Covered Work), timekeepers, mail carriers, clerks, office workers, messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, supervisory, and management employees.
- (b) Off-site manufacturing, fabrication, maintenance, hauling of equipment, machinery, or materials, and hauling of recyclable metals, such as copper, steel, and aluminum, that have been separated from other materials at the Covered Project jobsite prior to transportation and that are to be sold at fair market value to a bona fide purchaser as defined in Labor Code section 1720.3. However, any lay down or storage areas for equipment, materials, and manufacturing (*i.e.*, prefabrication) sites dedicated solely for the Covered Project, on-site fabrication, and the movement of materials or goods between locations on a Covered Project site are within the scope of the PLA. On-site fabrication work includes work done for the Covered Project in temporary yards or areas near the jobsite. On-site construction shall also include the site of any batch plant constructed solely to supply materials to the Covered Project. Hauling and delivery of materials used for paving, grading, and fill (which include ready-mixed concrete, soil, sand, gravel, rocks, and asphalt) onto a Covered Project jobsite are included under the PLA if the individual driver's work is integrated into the flow process of construction. Hauling of refuse from the Covered Project jobsite will also be covered by the terms and conditions of the PLA to the fullest extent allowed by law and by the prevailing wage determinations of the California Department of Industrial Relations.
- (c) All employees of the City and Project Labor Coordinator.
- (d) Employees of design teams (including, but not limited to, architects, engineers, and master planners), or any other consultants for the City (including, but not limited to, project managers, resident engineers, construction managers and their employees) and their sub-consultants,

and other employees of professional service organizations, not performing manual labor within the scope of this PLA.

- (e) Any as-needed professional services agreement that does not meet the definition of Covered Professional Services Agreements, even if the agreement includes surveying and inspection work that requires payment of prevailing wages under the State of California general prevailing wage determination for Field Surveyor and/or Building/Construction Inspector and Field Soils and Material Tester.
- (f) Any professional services agreement that was awarded prior to the effective date of the PLA. This exclusion also includes any subsequent amendment to a professional services agreement awarded prior to the effective date of the PLA that is necessary to complete a construction project.
- (g) Any work performed on or near or leading to or into a site of work covered by this PLA and undertaken by state, county, City, private utilities or other governmental bodies, or their contractors (other than work within the scope of this PLA undertaken by contractors to the City).
- (h) Work performed by employees of a manufacturer or vendor on the manufacturer's or vendor's equipment, if required by the warranty agreement in order to maintain the warranty or guarantee, and provided that the warranty agreement is the manufacturer's or vendor's usual and customary warranty agreement for such equipment and is consistent with industry practice. Any work to be excluded pursuant to this subsection shall be identified and discussed at the relevant pre-job conference. Upon request from the Council, the City shall review with the vendor whether installation or application may be performed pursuant to terms of the PLA without affecting the status of the warranty.
- (i) Specialized or technical work requiring specialized training, unique skills, or a level of specific technical experience which employees represented by the Union do not possess. At least ten (10) working days' notice shall be given to the Council before any work is performed pursuant to this exemption.
- (j) Laboratory testing work.
- (k) Non-construction support services contracted by the City, Project Labor Coordinator, or Contractor in connection with Covered Projects.

- (l) Work on emergency contracts awarded pursuant to San Diego Municipal Code (SDMC) sections 22.3108 or 22.3208.
- (m) Work on a construction project that was not procured by the City except a project that is specifically enumerated as a Covered Project on Attachment A or is subsequently included and approved by the City Council by resolution at its discretion during the effective dates of this Agreement.

Section 3.3 Awarding of Contracts.

- (a) The City has the absolute right to bid or award Covered Contracts regardless of delivery method to any Contractor notwithstanding the existence or non-existence of any agreements between such Contractor and any Union, provided only that such Contractor is willing, ready, and able to execute and comply with this PLA should such Contractor be awarded work covered by this PLA.

The solicitation of bids shall be based upon the same terms, conditions and scope of work requested of all potential bidders.

- (b) It is agreed that all Contractors awarded Covered Work shall be required to accept and be bound by the terms and conditions of this PLA. Contractors shall evidence their acceptance of this PLA by executing a Letter of Assent as set forth in Attachment B hereto. The Prime Contractor must sign and submit the Letter of Assent as a condition of award prior to the execution of a Covered Contract. No Contractor shall commence Covered Projects without first providing a copy of the signed Letter of Assent to the Project Labor Coordinator.
- (c) The City and all Contractors awarded Covered Work agree that, to the extent permitted by law and consistent with the economy and efficiency of construction and operation, they will use best efforts to purchase materials, equipment, and supplies that will not create labor strife. Under all circumstances, however, the City and Contractors shall retain the absolute right to select Contractors for the award of contracts and subcontracts on all Covered Projects.

Section 3.4 Coverage Exception. The Parties agree and understand that this PLA shall not apply to any Covered Project or portion thereof that would otherwise be covered by the PLA if a governmental agency or granting authority partially or fully funding such work determines that it will not fund the Covered Project if it is covered by this PLA. The City agrees that it will make a reasonable effort to establish the inclusion of this PLA with any governmental agency or granting authority funding a Covered Project.

Under no circumstance shall the City be required to forgo project funding due to potential application of this PLA. In such instance, the PLA and its terms shall not apply.

Section 3.5 Master Agreements.

- (a) The provisions of this PLA, including the Master Agreements (which are the local Master Agreements of the signatory Unions having jurisdiction over the work on the Covered Project, as such may be changed from time to time consistent with Section 21.3, and which are incorporated herein by reference), shall apply to Covered Work, notwithstanding the provisions of any other local, area and/or national agreement that may conflict with or differ from the terms of this PLA. Where a subject covered by the provisions of this PLA is also covered by a Master Agreement, the provisions of this PLA shall prevail. Where a subject is covered by a provision of a Master Agreement and not covered by this PLA, the provisions of the Master Agreement shall apply. Any dispute as to the applicable source between this PLA and any Master Agreement shall be resolved under the procedures established in Article 10.

- (b) This PLA, together with the referenced Master Agreements, constitutes a self-contained, stand-alone agreement and, by virtue of having become bound to this PLA, the Contractor will not be obligated to sign any other local, area, or national collective bargaining agreement as a condition of performing work within the scope of this PLA. Provided, however, that pursuant to Section 6.2, the Contractor may be required to sign a uniformly applied non-discriminatory Participation or Subscription Agreement at the request of the trustees or administrator of a trust fund established pursuant to Section 302 of the Labor Management Relations Act, and to which such Contractor may be bound to make contributions under this PLA, provided that such Participation or Subscription Agreement does not purport to bind the Contractor beyond the terms and conditions of this PLA for work on Covered Projects and/or expand its obligation to make contributions pursuant thereto. It shall be the responsibility of the Prime Contractor to have each of its Contractors of any tier sign the documents with the appropriate Union prior to the Contractor beginning work on Covered Projects.

Section 3.6 The Parties agree that this PLA will be made available to, and will fully apply to, any successful bidder for Covered Projects, without regard to whether that successful bidder performs work at other sites on either a Union or non-Union basis. This PLA shall not apply to any work of any Contractor other than that on Covered Projects specifically covered by this PLA.

- Section 3.7** Binding Signatories Only. This PLA and Letter of Assent shall only be binding on Contractors in the performance of Covered Work, and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such Contractors.
- Section 3.8** Other City Work. Nothing contained herein shall be interpreted to prohibit, restrict, or interfere with the performance of any other operation, work, or function not covered by this PLA, which may be performed by the City employees or contracted for by the City for its own account, on its property, or in and around a project site.
- Section 3.9** Separate Liability. It is understood that the liability of the Contractor(s) and the liability of the separate Unions under this PLA shall be several and not joint. The Unions agree that this PLA does not have the effect of creating any joint employment status between or among the City or Project Labor Coordinator and/or any Contractor.
- Section 3.10** Completed Covered Projects. As portions of Covered Projects are completed, this PLA shall have no further force or effect on such portions of projects, except where the Contractor is directed by the City or its representatives to engage in repairs, modification and/or check-out functions required by its contract(s) with the City.
- Section 3.11** Except for all work performed under the NTL Articles of Agreement, the National Stack/Chimney Agreement, and the National Cooling Tower Agreement, all instrument calibrations work and loop checking shall be performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians, and the National Agreement of the International Union of Elevator Constructors, with the exception of Article 7 (Work Stoppages and Lockouts), Article 8 (Work Assignments and Jurisdictional Disputes) and Article 10 (Settlement of Grievances and Disputes) of this PLA, which shall apply to such work.

ARTICLE 4

UNION RECOGNITION AND EMPLOYMENT

- Section 4.1** Recognition. The Contractor recognizes the Unions as the exclusive bargaining representative for the employees engaged in Covered Projects. Such recognition does not extend beyond the period when the employee is engaged in Covered Projects.
- Section 4.2** Contractor Selection of Employees. The Contractor shall have the right to determine the competency of all employees, the number of employees required, the duties of such employees within their craft jurisdiction, and shall have the sole responsibility for selecting employees to be laid off, consistent with this Article.

The Contractor shall also have the right to reject any applicant referred by a Union for any lawful reason, subject to any reporting time requirements of the applicable Master Agreement; provided, however, that such right is exercised in good faith and not for the purpose of avoiding the Contractor's commitment to employ qualified workers through the procedures endorsed in this PLA.

Section 4.3 Referral Procedures.

- (a) For Unions having a job referral system contained in a Master Agreement, the Contractor agrees to comply with such system, and such system shall be used exclusively by such Contractor, except as modified by this PLA. Such job referral system will be operated in a nondiscriminatory manner and in full compliance with federal, state, and local laws and regulations that require equal employment opportunities and non-discrimination. All of the foregoing hiring procedures, including related practices affecting apprenticeship, shall be operated so as to consider the goals of the City to encourage employment of Local Workers, Targeted Workers, and utilization of Disadvantaged Businesses on the Covered Projects, and to facilitate the ability of all Contractors to meet their employment needs.
- (b) The local Unions will exert their best efforts to recruit and refer sufficient numbers of skilled craft workers to fulfill the labor requirements of the Contractor, including specific employment obligations to which the Contractor may be legally and/or contractually obligated; and to refer Apprentices as requested to develop a larger, skilled workforce. The Unions will work with the Project Labor Coordinator and others designated by the City to identify and refer competent craft persons as needed for Covered Work, and to identify individuals, particularly local residents, for entrance into Apprenticeship Programs, or participation in other identified programs and procedures to assist individuals, particularly Local Workers and Targeted Workers, in qualifying and becoming eligible for such Apprenticeship Readiness Programs and Apprenticeship Programs, all maintained to increase the available supply of skilled craft personnel for Covered Projects.
- (c) The Union shall not knowingly refer an employee currently employed by a Contractor on Covered Projects to any other Contractor.

Section 4.4 Non-Discrimination in Referral, Employment, and Contracting. The Parties and Contractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, ethnicity, color, ancestry, religious creed, national origin, sexual orientation, physical disability, mental disability, medical condition, age, marital status, denial of family care leave, genetic information, gender,

gender identity, gender expression, military and veteran status, criminal records, past incarceration, previous status as a foster youth, political affiliation or membership in a labor organization in hiring and dispatching workers for the Covered Projects. The Parties and Contractors will ensure that the evaluation and treatment of their employees, members, and applicants for employment or membership are free from such discrimination, harassment, and retaliation. Further, it is recognized that the City has certain policies, programs, and goals for the utilization of Disadvantaged Businesses. The Parties and Contractors shall jointly endeavor to assure that these commitments are fully met, and that any provisions of this PLA that may appear to interfere with Disadvantaged Businesses successfully bidding for work on Covered Projects shall be carefully reviewed, and adjustments made as may be appropriate and agreed upon among the Parties, to ensure full compliance with the City's policies and commitment to its goals for the significant utilization of Disadvantaged Businesses as Contractors, vendors or suppliers on Covered Projects.

Section 4.5 Employment of Local Workers and Targeted Workers.

- (a) In recognition of the City's mission to maximize employment opportunities for Local Workers and Targeted Workers, Unions and Contractors agree that Local Workers, as well as Targeted Workers, to the extent such status is known, shall be first referred for Covered Projects. The list of qualifying zip codes for Local Workers will be posted on the City's website, as indicated in the Workforce Dispatch Request Form.
- (b) The Contractors and Unions agree to work together to achieve a goal of at least thirty percent (30%) of the total construction craft hours worked on each Covered Project being performed by Local Workers, if the Covered Project does not receive federal funding, or if local hiring requirements are pre-approved by federal funding sources. If the Covered Project receives federal funding and local hiring requirements have not been pre-approved by the federal funding source(s), the aforementioned goal will be based on the total construction craft hours worked performed by California residents and shall not consider the craft hours worked by residents of states other than California.
- (c) The Contractors and Unions agree to increase participation of Targeted Workers on each Covered Project. Strategies and outcomes for increasing such participation will be reported annually by the Project Labor Coordinator with support and assistance from Contractors and Unions.
- (d) Contractors shall attempt to satisfy the goals set forth in Section 4.5(b) by (i) assigning current craft employees who are Local Workers to perform Covered Work; (ii) if necessary, requesting referral of Local

Workers from Union hiring halls (using the Workforce Dispatch Request Form) and Apprenticeship Programs; and (iii) if the goals are not satisfied after following such steps, considering qualifying workers available from other sources, in compliance with Section 4.7. Contractors that follow these procedures in good faith and with concerted efforts to identify and retain Local Workers shall not be considered in non-compliance for failure to meet the goals set forth in Section 4.5(b).

- (e) Covered Professional Services Agreements entered into by the City for covered surveying or inspection services, which are separate and apart from the Covered Contract for a Covered Project, are exempt from the foregoing Local Worker and Targeted Worker hiring goals.
- (f) To facilitate the dispatch of Local Workers and Targeted Workers, as well as all Contractor requests for referral and dispatch of workers from the applicable Union referral system, all Contractors are required to utilize the Workforce Dispatch Request Form. When Local Workers and Targeted Workers are requested by a Contractor, the Unions will refer Local Workers, and Targeted Workers to the extent such status is known, regardless of their place in the Union hiring halls' list and normal referral procedures.
- (g) The Project Labor Coordinator shall work with the Unions and Contractors in the administration, monitoring, and reporting of the foregoing Local Worker hiring goals.

Section 4.6 **Core Employees.** This Section only applies to Contractors who are not signatory to an applicable Master Agreement.

- (a) Core Employees must meet the following eligibility requirements to qualify for employment on Covered Projects:
 - (1) A Core Employee must be a journeyperson and appear on the Contractor's active payroll for at least sixty (60) of the last one-hundred-twenty (120) working days prior to being designated as a Core Employee. The date a Core Employee is designated is the date the Core Employee list is submitted to the Project Labor Coordinator and Union prior to the Contractor commencing work; and
 - (2) A Core Employee must possess any license required by state or federal law for the Covered Projects to be performed.

- (b) Core Employee Hiring Procedure for Disadvantaged Businesses. The Parties recognize the City's interest in promoting competition and inclusion of Disadvantaged Businesses, which may not be signatory to a current Master Agreement. In order to promote participation and attract Disadvantaged Businesses to work under this PLA, and subject to the limitations set forth below, each Contractor that is a Disadvantaged Business may first employ three (3) of its Core Employees per craft on each Covered Project prior to employing an employee through the appropriate Union hiring hall. The next (fourth) employee shall be hired from the appropriate Union hiring hall and thereafter, such Contractor may employ, as needed, two (2) additional Core Employees in an alternating manner with Union referrals, up to a total of five (5) Core Employees. Thereafter, all additional employees in the affected trade or craft shall be requested and referred from the appropriate Union hiring hall.

The foregoing Core Employee hiring procedure for Disadvantaged Businesses is subject to the following limitations:

- (1) Disadvantaged Businesses are limited to utilizing the foregoing Core Employee hiring procedure on subcontracts with a value of \$500,000 or less; and
- (2) The total value of all subcontracts utilizing the foregoing Core Employee hiring procedure shall not exceed ten percent (10%) of the total value of any Covered Project; and
- (3) Each Disadvantaged Business performing work as a subcontractor is limited to using this hiring procedure for one subcontract per Covered Project.

The City may at its sole discretion modify the above Core Employee limitations for Disadvantaged Businesses. Any modifications to the limitations for Disadvantaged Businesses will be reflected in the SDMC, including but not limited to Chapter 2, Article 2, Division 36, Small and Local Business Program Administration. If there is conflict, ambiguity, or other inconsistency between any provision in this PLA and the SDMC, the SDMC will control and take precedence.

In order to assist the Project Labor Coordinator in monitoring compliance with this Section, each Prime Contractor will be responsible for tracking, reporting and providing notice to the Project Labor Coordinator describing each Disadvantaged Business subcontract that qualifies for the foregoing hiring procedure prior to work commencing.

- (c) Contractors who do not qualify for the hiring procedure for Disadvantaged Businesses set forth in Section 4.6(b), and who are not otherwise signatory to a current Master Agreement, may employ, as needed, first, a Core Employee, then an employee through a referral from the appropriate Union hiring hall, then a second Core Employee, then a second employee through the referral system, and so on until a maximum of three (3) Core Employees are employed per craft on each Covered Project. Thereafter, all additional employees in the affected trade or craft shall be requested and referred from the appropriate Union hiring hall in accordance with this Article. Contractors employing more than fifty (50) craft workers at the same time in a specific trade on a Covered Project may hire an additional two (2) Core Employees.

Section 4.6 only applies to Contractors who are not directly signatory to a current Master Agreement for the craft worker in its employ and is not intended to limit the transfer provisions of the Master Agreement of any trade. As part of this process, and in order to facilitate the contract administration procedures, as well as appropriate fringe benefit fund coverage, all Contractors shall require their Core Employees and any other persons employed other than through the referral process, to register with the appropriate Union hiring hall, if any, prior to their first day of employment working under the Covered Contract at a Covered Project site.

- (d) Prior to each Contractor performing Covered Work, the Contractor shall provide a list of Core Employees using Attachment C-2, Contractor Core Workforce Form, to the Project Labor Coordinator and the Union having jurisdiction over the work. After submitting the Core Employee list prior to commencing work, Contractors shall not make any changes or substitutions to the Core Employee list for the duration of the Covered Project, except in cases where a Core Employee is injured or otherwise cannot work on the Covered Project due to factors beyond the Contractor's control. Failure to submit the Core Employee list prior to work commencing will prohibit the Contractor from using any Core Employees until 30 calendar days after the list is provided to the Project Labor Coordinator and Union having jurisdiction over the work.
- (e) Upon request by any Party to this PLA, a Contractor hiring one or more Core Employees shall provide satisfactory proof (*i.e.*, payroll records, quarterly tax records, and such other documentation) evidencing Core Employees' qualifications as such to the Project Labor Coordinator and the Council.

- (f) In addition to the core employee provisions set forth herein, all Contractors may avail themselves of any opportunity provided for in the applicable Master Agreements to call for specific employees by name.
- (g) During any layoffs or reductions in workforce, Contractors shall layoff employees in an order and manner consistent with the Core Employee hiring procedures and maintain the required Core Employee-to-Union referral ratios required by this Section for the duration of each Covered Project.

Section 4.7 Time for Referral. If any Union's registration and referral system does not fulfill the requirements for specific classifications of covered employees (including Local Workers and Targeted Workers) requested by any Contractor within forty-eight (48) hours (excluding Saturdays, Sundays, and holidays), that Contractor may employ Core Employees without reference to the ratio requirements in Section 4.6 or use employment sources other than the Union registration and referral services, and may employ applicants from any other available source. The Contractor should promptly inform the Union of any applicants hired from other sources, and such applicants shall register with the appropriate hiring hall, if any.

Section 4.8 Lack of Referral Procedure. If a signatory local Union does not have a job referral system as set forth in Section 4.3 above, the Contractors shall give the Union equal opportunity to refer applicants in conformance with remaining provisions of this Article 4. The Contractors shall notify the Union of employees so hired, as set forth in Section 4.7.

Section 4.9 Union Membership. Employees are not required to become or remain Union members or pay Union dues or fees as a condition of performing Covered Work under this PLA. Nothing in this Section 4.9 is intended to supersede independent requirements of the applicable Master Agreements as to those Contractors otherwise signatory to such Master Agreements and as to the employees of those Contractors who are performing work on Covered Projects. Contractors otherwise signatory to such Master Agreements shall make and transmit all deductions for Union dues, fees, and assessments that have been authorized by employees in writing in accordance with the applicable Master Agreement.

Section 4.10 Foremen. The selection and number of craft foremen and/or general foremen shall be the responsibility of the Contractor, consistent with the Master Agreements. All foremen shall take orders exclusively from the designated Contractor representatives. Craft foremen shall be designated as working foreman at the request of the Contractors.

ARTICLE 5
UNION ACCESS AND STEWARDS

Section 5.1 Access to Project Sites. Authorized representatives of the Union shall have access to Covered Projects, provided that they do not interfere with the work of employees and further provided that such representatives fully comply with posted visitor, security, and safety rules.

Section 5.2 Stewards.

- (a) Each signatory local Union shall have the right to dispatch a working journey person as a steward for each shift, and shall notify the Contractor in writing of the identity of the designated steward or stewards prior to the assumption of such person's duties as steward. Such designated steward or stewards shall not exercise any supervisory functions. There will be no non-working stewards. Stewards will receive the regular rate of pay for their respective crafts.
- (b) In addition to his/her work as an employee, the steward should have the right to receive, but not to solicit, complaints or grievances and to discuss and assist in the adjustment of the same with the employee's appropriate supervisor. Each steward should be concerned only with the employees of the steward's Contractor and not with the employees of any other Contractor. The Contractor will not discriminate against the steward in the proper performance of his/her Union duties.
- (c) When a Contractor has multiple, non-contiguous work locations at one site, the Contractor may request and the Union shall appoint such additional working stewards as the Contractor requests to provide independent coverage of one or more such locations. In such cases, a steward may not service more than one work location without the approval of the Contractor.
- (d) The stewards shall not have the right to determine when overtime shall be worked or who shall work overtime.

Section 5.3 Steward Layoff/Discharge. The Contractor agrees to notify the appropriate Union twenty-four (24) hours before the layoff of a steward, except in the case of disciplinary discharge for just cause. If the steward is protected against such layoff by the provisions of the applicable Master Agreement, such provisions shall be recognized when the steward possesses the necessary qualifications to perform the remaining work. In any case in which the steward is discharged or disciplined for just cause, the appropriate Union will be notified immediately by the Contractor, and such discharge or discipline

shall not become final (subject to any later filed grievance) until twenty-four (24) hours after such notice has been given.

Section 5.4 Employees on Non-Covered Projects. On work where the personnel of the City or its contractors may be working in close proximity to the construction activities covered by this PLA on non-covered projects, the Union agrees that the Union representatives, stewards, and individual workers will not interfere with City personnel, or with personnel employed by any other employer not performing Covered Work.

ARTICLE 6

WAGES AND BENEFITS

Section 6.1 Wages. At a minimum, all employees covered by this PLA shall be classified in accordance with work performed and paid the hourly wage rates for those classifications in compliance with the Applicable Prevailing Wage Laws.

Section 6.2 Benefits.

- (a) Subject to the exception set forth below for Disadvantaged Businesses, otherwise, for all employees performing Covered Work, Contractors shall pay, at a minimum, all employee fringe benefits and other required Contractor contributions to the established Union employee benefit funds in the amounts required by Applicable Prevailing Wage Laws. In addition, the Contractors and Unions agree that only such bona fide employee benefits that accrue to the direct benefit of the employees (such as pension and annuity, health and welfare, vacation, apprenticeship, and training funds) shall be included in this requirement and required to be paid by the Contractor for performance of Covered Work.
- (b) Union Benefit Fund Contributions for Disadvantaged Businesses. Disadvantaged Businesses not otherwise signatory to a Master Agreement are exempt from the requirement of subsection (a) to pay fringe benefits and other required Contractor contributions on behalf of their Core Employees to the Union employee benefit funds, subject to the following exemption limitations:
 - (1) Disadvantaged Businesses are limited to utilizing the foregoing Core Employee exemption on subcontracts with a value of \$500,000 or less; and
 - (2) The total value of all subcontracts utilizing this exemption shall not exceed ten percent (10%) of the total value of any Covered Project; and

- (3) Each Disadvantaged Business performing work as a subcontractor is limited to using this exemption for one subcontract per Covered Project.

The City may at its sole discretion modify the above Union Benefit Fund Contribution limitations for Disadvantaged Businesses. Any modifications to the limitations for Disadvantaged Businesses will be reflected in the SDMC, including but not limited to Chapter 2, Article 2, Division 36, Small and Local Business Program Administration. If there is conflict, ambiguity, or other inconsistency between any provision in this PLA and the SDMC, the SDMC will control and take precedence.

Disadvantaged Businesses are required to pay all fringe benefits and other required Contractor contributions to the established Union employee benefit funds for all employees other than their Core Employees, and must comply with the Applicable Prevailing Wage Laws, including the payment of fringe benefits, for all employees performing Covered Work.

- (c) Where benefits payments are required by subsection (a), the Contractor adopts and agrees to be bound by the written terms of the applicable, legally established, Union trust agreement(s) specifying the detailed basis how payments will be made into, and benefits paid out of, such trust funds for its employees. The Contractor authorizes the parties to such trust funds to appoint trustees and successors' trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor. The Contractor obligations to the applicable Union benefit fund(s) and trust agreement(s) are limited to work performed on a Covered Project. The applicable Union benefit funds and trust agreement(s) to each Contractor are determined by the pre-job conference and Union work assignment process described in Articles 8 and 16.
- (d) Each Contractor is required to certify to the Project Labor Coordinator that it has paid all benefit contributions due and owing to the appropriate Union trust(s) and benefit funds prior to the receipt of its final payment and/or retention. Further, upon timely notification by a Union to the Project Labor Coordinator, the Project Labor Coordinator shall work with any Contractor who is delinquent in payments to assure that proper benefit contributions are made, to the extent of requesting the City and/or the Prime Contractor to withhold payments otherwise due such Contractor, until such contributions have been made or otherwise guaranteed.
- (e) Notwithstanding any other provisions, this PLA is an agreement under Section 8(f) of the National Labor Relations Act (NLRA),

which covers work performed in the building and construction industry. In addition, the work performed under this PLA qualifies for the Construction Industry Exemption under the Employee Retirement and Income Security Act of 1974 ("ERISA"), as amended as well. If any Union Pension Trust Fund ("Fund") covered by the terms and conditions of this PLA does not qualify for the ERISA Construction Industry Exemption authorized by Section 4203 (B)(1)(i), as amended, 29 U.S.C. § 1383(b)(1)(i), or has not taken the necessary steps to amend the Fund documents to qualify for the Construction Industry Exemption as authorized by Section 4203(B)(1)(ii) of ERISA, as amended, 29 U.S.C. § 1383(b)(1)(B)(ii), and to recognize the work performed under this PLA to qualify for the Construction Industry Exemption, the Contractors signatory to this PLA will not be obligated to make pension fund contributions to that Fund. In such an event, the Contractor shall pay all required amounts otherwise allocated for payment toward the non- exempt Fund to the employees' wages or other bona fide retirement plan program pursuant to Applicable Prevailing Wage Laws.

Section 6.3 Wage Premiums. Wage premiums, including, but not limited to, pay based on height of work, shift premiums, hazard pay, scaffold pay, and special skills shall not be applicable to work under this PLA, except to the extent provided for in any Applicable Prevailing Wage Laws.

Section 6.4 Compliance with Prevailing Wage Laws. All complaints regarding possible violations of Applicable Prevailing Wage Laws may be referred to the City's Prevailing Wage Program for processing, investigation and resolution, and if not resolved within thirty (30) calendar days, may be referred by any Party to the State Labor Commissioner. To facilitate compliance with Applicable Prevailing Wage Laws, each Contractor agree to provide copies of certified payroll reports, redacted only to the extent required by law, to the Unions (or to any Labor Management Cooperation Committee in which a Union or its affiliate participates) within ten (10) days of their request.

ARTICLE 7

WORK STOPPAGE AND LOCKOUTS

Section 7.1 No Work Stoppages or Disruptive Activity. The Council and the Unions signatory hereto agree that neither they, nor their respective officers, or agents or representatives, shall incite or encourage, condone or participate in any strike, walk-out, slowdown, picketing, observation of picket lines, or other activity of any nature or kind whatsoever, for any cause or dispute whatsoever with respect to or in any way related to Covered Projects, or which interferes with or otherwise disrupts Covered Projects, or with respect to or related to the City or Contractors or subcontractors, including, but not limited to, economic strikes, unfair labor practice strikes, safety strikes, sympathy

strikes, and jurisdictional strikes, whether or not the underlying dispute is arbitrable. Any such actions by the Council, or Unions, or their members, agents, representatives, or the employees they represent shall constitute a material violation of this PLA. The Council and the Union shall take all steps necessary to obtain compliance with this Article.

Section 7.2 Employee Violations. The Contractor may discharge any employee violating Section 7.1 above, and any such employee will not be eligible for rehire for performance of Covered Work.

Section 7.3 Standing to Enforce. The City and any Contractor affected by an alleged violation of this Article shall have standing and the right to enforce the obligations established herein.

Section 7.4 Expiration of Master Agreements. If a Master Agreement between a Union-signatory Contractor and one or more of the Union(s) expires before the Contractor completes the performance of a Covered Contract for a Covered Project, and the Union or the Contractor gives notice of demand for a new or modified Master Agreement, the Unions agree that they will not strike the Contractor on any Covered Project, and the Union and the Contractor agree that the expired Master Agreement will continue in full force and effect for the Covered Projects until a new or modified Master Agreement is put in place between the Union and the Contractor. If the new or modified Master Agreement between the Union and the Contractor provides that any terms of the Master Agreement shall be retroactive, the Contractor agrees to comply, consistent with the terms of this PLA and the Applicable Prevailing Wage Laws, with any retroactive terms of the new or modified Master Agreement which are applicable to employees of said Contractor that are employed on a Covered Project within seven (7) days at no cost to the City. All employees shall continue to work and to perform all their obligations with respect to Covered Projects despite the expiration of any Master Agreement. Should a Contractor engaged in Covered Projects enter into an interim agreement with the Unions for work being performed elsewhere after the expiration, and before the renewal of a local collective bargaining agreement forming the basis for a Master Agreement, such interim agreement shall be utilized by that Contractor for Covered Projects, subject to the provisions of Section 21.3.

Section 7.5 No Lock Outs. Contractors shall not cause, incite, encourage, condone or participate in any lock-out of employees with respect to Covered Projects during the term of this PLA. The term "lock-out" refers only to a Contractor's exclusion of employees in order to secure collective bargaining advantage, and does not refer to the discharge, termination, or layoff of employees by the Contractor for any reason in the exercise of rights pursuant to any provision of this PLA, or any other agreement, nor does "lock-out" include the City's decision to stop, suspend, or discontinue any Covered Projects or any portion thereof for any reason.

Section 7.6 Best Efforts to End Violations.

- (a) If a Contractor or the City contends that there is any violation of this Article, it shall, at least twenty-four (24) hours prior to invoking the procedures of Section 7.7, provide written notification to the Council of the involved Union(s) and to the Project Labor Coordinator, setting forth the facts which the Contractor contends violates this Article. The Council and the leadership of the involved Union(s) will immediately instruct, order, and use their best efforts to cause the cessation of any violation of the Article.
- (b) If the Union contends that any Contractor has violated this Article, it will notify the Contractor and the Project Labor Coordinator, setting forth the facts which the Union contends violate this Article, at least twenty-four (24) hours prior to invoking the procedures of Section 7.7. The Project Labor Coordinator shall promptly order the involved Contractor(s) to cease any violation of the Article.

Section 7.7 Expedited Enforcement Procedure. Any Party, including the City, which is an intended beneficiary of this Article, and affected Contractors, may institute the following procedures, in lieu of or in addition to any other action at law or equity, when a breach of this Article is alleged.

- (a) The party, including any affected Contractor, invoking this procedure shall notify Robert Hirsch, who has been selected by the Parties, and whom the Parties agree shall be the permanent arbitrator under this procedure, or John Kagel, as the alternate arbitrator under this procedure. If the permanent arbitrator is unavailable at any time, the alternate will be contacted. If neither is available, then a selection shall be made from the list of arbitrators as set forth in Article 10. Notice to the arbitrator shall be by the most expeditious means available, with notices to the Contractor or Union alleged to be in violation, and to the Project Labor Coordinator and Council. For purposes of this Article, written notice may be given by email, facsimile, hand delivery, or overnight mail and will be deemed effective upon receipt.
- (b) Upon receipt of said notice, the arbitrator named above or their alternate shall sit and hold a hearing within seventy-two (72) hours if it is contended that the violation still exists, but not sooner than twenty-four (24) hours after notice has been dispatched to the Council of the involved Union(s) and/or Contractor as required by Section 7.6, above.
- (c) The arbitrator shall notify the disputing parties of the place and time chosen for this hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion,

shall not exceed twenty- four (24) hours unless otherwise agreed upon by all disputing parties. A failure of any of the disputing parties to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

- (d) The sole issue at the hearing shall be whether or not a violation of this Article has in fact occurred. The arbitrator shall have no authority to consider any matter in justification, explanation, or mitigation of such violation or to award damages, (except for damages as set forth in Section 7.8 below) which issue is reserved for court proceedings, if any. The award shall be issued in writing within three (3) hours after the close of the hearing and may be issued without an opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the award. The arbitrator may order cessation of the violation of the Article and other appropriate relief, and such award shall be served on all disputing parties by hand or registered mail upon issuance.
- (e) Such award shall be final and binding on all disputing parties and may be enforced by any court of competent jurisdiction upon the filing of this PLA and all other relevant documents referred to herein above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In any judicial proceeding to obtain a temporary order enforcing the arbitrator's award as issued under Section 7.7(d) of this Article, all disputing parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any party's right to participate in a hearing for a final order of enforcement. The court's order or orders enforcing the arbitrator's award shall be sent to all disputing parties.
- (f) Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance hereto are hereby waived by the Parties and Contractors to whom they accrue.
- (g) The fees and expenses of the arbitrator shall be equally divided between the disputing parties.

Section 7.8 Liquidated Damages.

- (a) If the arbitrator determines in accordance with Section 7.7 above that a work stoppage or other disruption to a Covered Project has occurred, the respondent Union(s) shall, within eight (8) hours of receipt of the Award, direct all the employees they represent on the Covered Project to immediately return to work. If the craft(s) involved do not return to work by the beginning of the next regularly scheduled shift following

such eight (8) hour period after receipt of the arbitrator's Award, and the respondent Union(s) have not complied with their obligations to immediately instruct, order, and use their best efforts to cause a cessation of the violation and return the employees they represent to work, then the non-complying Union(s) shall each pay a sum as liquidated damages to the City, and each will pay an additional sum per shift, as set forth in (c), below, for each shift thereafter on which the craft(s) has not returned to work.

- (b) If the arbitrator determines in accordance with Section 7.7 above that a lock-out has occurred, the respondent Contractor shall, within eight (8) hours after receipt of the award, return all the affected employees to work on the Covered Project, or otherwise correct the violations found by the arbitrator. If the respondent Contractor does not take such action by the beginning of the next regular scheduled shift following the eight (8) hour period, each non-complying respondent Contractor shall pay or give as liquidated damages, to the affected Union (to be apportioned among the affected employees and the benefit funds to which contributions are made on their behalf, as designated by the arbitrator) an amount equal to the total hourly wages and benefits lost for all affected employees of the Contractor on Covered Projects. In addition, the Contractor shall pay an additional sum per shift to the City, as set forth in (c), below, for each shift thereafter in which compliance by the respondent Contractor has not been completed.
- (c) The Parties agree that project delays caused by violations of this Article will cause the City to sustain damages. They agree that it would be impractical or extremely difficult to fix the amount of such damages. Therefore, the Parties agree that, in the event of a breach of this Article, the disputing party in breach shall pay to the City the sum of not less than \$10,000.00 and no more than \$20,000.00 per shift, as determined by the arbitrator, from the time the arbitrator determines that a delay has occurred until the arbitrator determines that the Covered Project is no longer disrupted. The payment, when made, shall constitute a damages remedy of the City for the delay specified, but shall not prevent the City from seeking injunctive or other monetary relief, including termination of this PLA. Payment of these sums as liquidated damages is not intended as a forfeiture or penalty within the meaning of California Civil Code sections 3275 or 3369, but instead, is intended to constitute liquidated damages to the City pursuant to section 1671 of the California Civil Code.

Section 7.9 Payroll and Benefit Delinquencies. Notwithstanding other provisions of this PLA, it shall not be a violation of this PLA for any Union to withhold the services of its members from a Contractor who fails to timely pay its weekly payroll in accordance with the applicable Master Agreement, or fails to make

timely payments to the applicable Union benefit funds. This Section 7.9 does not inhibit or affect responsibilities of the Council and the Union under Section 7.1 to refrain from picketing or other disruption of Covered Projects.

Prior to withholding its members' services for the Contractor's failure to meet its weekly payroll, the Union shall give at least five (5) calendar days written notice of such failure to pay by certified mail, and by facsimile or email transmission to the involved Contractor, Prime Contractor and Project Labor Coordinator. The Prime Contractor, together with the involved Contractor and affected Union, shall meet within five (5) working days after the written notice of such failure to pay was sent to attempt to resolve the payroll delinquency. If the payroll delinquency remains unresolved, then the affected Union may withhold the services of its members from the involved Contractor. Upon the payment of all monies due and then owing for wages, the Union shall direct its members to immediately return to work and the Contractor shall return all such members back to work.

Prior to withholding its members' services for the Contractor's failure to make timely payments to the applicable Union benefit funds, the Union shall give at least thirty (30) days written notice of such failure to pay by certified mail, and by facsimile or email transmission to the involved Contractor, the Prime Contractor and Project Labor Coordinator. The Prime Contractor, together with the involved Contractor and affected Union, shall meet within five (5) working days after the written notice of such failure to pay was sent to attempt to resolve the delinquency. If the delinquency remains unresolved, then the affected Union may withhold the services of its members from the involved Contractor. Upon payment by the delinquent Contractor of all monies due and then owing for employee benefit contributions, the Union shall direct its members to immediately return to work and the Contractor shall return all such members back to work.

Nothing in this section should be construed to prevent the Union having jurisdiction over the involved work from submitting a grievance under the procedures of Article 10 for any alleged or actual violations of Article 6 or referring any alleged or actual prevailing wage violation to the Project Labor Coordinator and the City labor compliance program for review and enforcement, in accordance with Section 6.4.

The Prime Contractor shall have the right to replace any delinquent Contractor in accordance with the terms and conditions of their prime contract with the City, and applicable law.

ARTICLE 8
WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

Section 8.1 No Jobsite Disruption. There will be no strikes, work stoppages, picketing, sympathy strikes, slowdowns, or other interferences with the work because of jurisdictional disputes between Unions. The assignment of work will be solely the responsibility of the Contractor performing the work involved; and such work assignments will be in accordance with the Plan for Settlement of Jurisdictional Disputes in the Construction Industry (the "Plan") or any successor Plan.

Section 8.2 All jurisdictional disputes on a Covered Project shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted by the Building and Construction Trades Department. Decisions rendered shall be final and binding and conclusive on the Contractors and Unions with regard to Covered Work.

All jurisdictional disputes shall be resolved without the occurrence of any of the activities prohibited in Article 7 (Work Stoppages and Lockouts), and the Contractor's assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

Section 8.2.1 If a dispute arising under this Article involves the Southwest Regional Council of Carpenters or any of its subordinate bodies, an arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of Thomas Pagan, Robert Hirsch, and John Kagel, and the arbitrator's hearing on the dispute shall be held at the offices of the Council within fourteen (14) days of the selection of the arbitrator. All other procedures shall be as specified in the Plan.

Section 8.3 Failure to Comply. If any Union or Contractor fails to immediately and fully comply with the final decision rendered by the Plan, affected Union(s) or Contractor(s) may seek legal redress for such conduct, including, but not limited to, injunctive relief and/or damages.

Section 8.4 Pre-job Conference. It is required that a pre-job conference be held not later than ten (10) calendar days prior to the start of work by each Contractor for the Covered Project in accordance with the procedure described in Article 16.

ARTICLE 9
MANAGEMENT RIGHTS

Section 9.1 Contractor and City Rights. The Contractors and the City have the sole and exclusive right and authority to oversee and manage construction operations on Covered Projects without any limitations unless expressly limited by a specific

provision of this PLA. In addition to the following and other rights of the Contractors enumerated in this PLA, the Contractors expressly reserve their management rights and all the rights conferred upon them by law. The Contractor's rights include, but are not limited to, the right to:

- (a) Plan, direct, and control operations of all work; and
- (b) Hire, promote, transfer, and layoff their own employees, respectively, as deemed appropriate to satisfy work and/or skill requirements; and
- (c) Promulgate and require all employees to observe reasonable job rules and security and safety regulations; and
- (d) Discharge, suspend, or discipline their own employees for just cause; and
- (e) Utilize, in accordance with the City's approval, any work methods, procedures, or techniques, and select, use, and install any types or kinds of materials, apparatus, or equipment, regardless of source of manufacture or construction; and
- (f) Assign and schedule work at their discretion; and
- (g) Assign overtime, determine when it will be worked and the number and identity of employees engaged in such work, subject to such provisions in the applicable Master Agreement(s) requiring such assignments be equalized or otherwise made in a nondiscriminatory manner.

Section 9.2 Specific City Rights. In addition to the following and other rights of the City enumerated in this PLA, the City expressly reserves its management rights and all the rights conferred on it by law and contract. The City's rights (and those of the Project Labor Coordinator on its behalf) include, but are not limited to the right to:

- (a) Inspect any construction site or facility to ensure that the Contractor follows the applicable safety and other work requirements; and
- (b) At its sole option, terminate, delay, and/or suspend any and all portions of the Covered Projects at any time; prohibit some or all work on certain days or during certain hours of the day to accommodate the ongoing operations of the City and/or to mitigate the effect of ongoing Covered Projects on businesses and residents in the neighborhood of the Covered Project sites; and/or require any other operational or schedule changes it deems necessary, in its sole

judgment, to meet Covered Project deadlines and remain a good neighbor to those in the area of the Covered Projects. (In order to permit the Contractors and Unions to make appropriate scheduling plans, the City will provide the Prime Contractor and affected Unions with reasonable notice of any changes it requires pursuant to this section); and

- (c) Approve any work methods, procedures, and techniques used by Contractors whether or not these methods, procedures, or techniques are part of industry practices or customs; and
- (d) Investigate and process complaints or disagreements, through the Project Labor Coordinator.

Section 9.3 Use of Materials. There should be no limitations or restrictions by the Union upon a Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and utilization of equipment, machinery, packaging, precast, prefabricated, prefinished, or preassembled materials, tools, or other labor-saving devices, subject to the application of the California Public Contract and Labor Codes. Generally, the onsite installation or application of such items shall be performed by the craft having jurisdiction over such work.

Section 9.4 Special Equipment, Warranties and Guaranties.

- (a) It is recognized that certain equipment of a highly technical and specialized nature may be installed at Covered Project sites. The nature of the equipment, together with the requirements for manufacturer's warranties, may dictate that it be prefabricated, pre-piped, and/or pre-wired and that it be installed under the supervision and direction of the City and/or manufacturer's personnel or certified specialist contractor. The Unions agree that such equipment is to be installed without incident and without violation of this PLA.
- (b) The Parties recognize that the Contractor will initiate from time to time the use of new technology, equipment, machinery, tools, and other labor-savings devices and methods of performing Covered Projects. The Unions agree that they will not restrict the implementation of such devices or work methods. The Unions will accept and will not refuse to handle, install, or work with any standardized and/or catalogue parts, assemblies, accessories, prefabricated items, preassembled items, partially assembled items, or materials whatever their source of manufacture or construction.
- (c) If any disagreement between the Contractor and the Union concerning the methods of implementation or installation of any equipment, device, or item, or method of work arises, or whether a

particular part or pre-assembled item is a standardized or catalog part or item, the work will proceed as directed by the Contractor, and the Contractor and Union shall immediately consult over the matter. If the disagreement is not resolved, the affected Union(s) shall have the right to proceed through the procedures set forth in Article 10.

ARTICLE 10
SETTLEMENT OF GRIEVANCES AND DISPUTES

Section 10.1 Cooperation and Harmony on Site.

- (a) This PLA is intended to establish and foster continued close cooperation between management and labor. The Council shall assign a representative to the Covered Project for the purpose of assisting the local Unions, and working with the Project Labor Coordinator, together with the Contractors, to complete construction of the Covered Projects economically, efficiently, continuously, and without any interruption, delays, or work stoppages.
- (b) The City, the Contractors, Unions, and employees collectively and individually, realize the importance of maintaining continuous and uninterrupted performance of Covered Projects, and agree to resolve disputes in accordance with the grievance provisions set forth in this Article or, as appropriate, those of Article 7 or 8.
- (c) The Project Labor Coordinator shall observe the processing of grievances under this Article and Articles 7 and 8, including the scheduling and arrangements of facilities for meetings, selection of the arbitrator from the agreed-upon panel to hear the case, and any other administrative matters necessary to facilitate the timely resolution of any dispute; provided, however, it is the responsibility of the grievance parties to ensure the time limits and deadlines are met.

Section 10.2 Processing Grievances. Any questions, complaints or alleged violations of this PLA, which includes questions, complaints or alleged violations of any applicable provisions of the Master Agreements, but not alleged violations of Articles 7 or 8, shall be considered a grievance and subject to resolution under the following procedures.

Step 1.

- (a) Employee Grievances. When any employee subject to the provisions of this PLA feels aggrieved by an alleged violation of this PLA, the employee shall, through his local Union business representative or job steward, within ten (10) working days after the occurrence of the violation, give notice to the work site representative of the involved

Contractor stating the provision(s) alleged to have been violated, the details of the alleged violation and the remedy sought to resolve the matter. A grievance shall be considered null and void if notice of the grievance is not given within the ten (10) day period. A business representative of the local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within ten (10) working days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party may, within ten (10) working days thereafter, pursue Step 2 of this grievance procedure provided the grievance is reduced to writing, setting forth the relevant information, including a short description thereof, the date on which the alleged violation occurred, and the provision(s) of the applicable agreement alleged to have been violated. Grievances and disputes settled at Step 1 shall be non- precedential except as to the grievance parties.

- (b) Union, Contractor, or City Grievances. Should a Union, a Contractor, or the City (each a “complaining party”) allege a violation of this PLA by a Party or a Contractor, and, if after conferring within ten (10) working days after the complaining party knew or should have known of the facts or occurrence giving rise to the dispute, a settlement is not reached within five (5) working days, the dispute shall be reduced to writing and processed to Step 2 in the same manner as outlined in Step 1(a) above for the processing of an employee complaint.

Step 2.

A representative of the complaining party, and a representative of any responding party to the grievance (“responding party”), shall meet within seven working days of the referral of the dispute to this second step to attempt to arrive at a satisfactory settlement thereof. The City may participate as an interested Party in any dispute brought under this Article. If the complaining party and responding parties fail to reach an agreement to the satisfaction of the complaining party, the dispute may be submitted in writing in accordance with the provisions of Step 3 within seven (7) working days after the initial meeting at Step 2.

Step 3.

- (a) If the grievance is submitted but not resolved under Step 2, the complaining party may request in writing to the Project Labor Coordinator (with copy[ies] to the other party[ies] to the grievance) within seven (7) working days after the initial Step 2 meeting, that the grievance be submitted to an arbitrator selected from the agreed-upon list below, on a rotational basis in the order listed. Those arbitrators are: (1) Barry Winograd; (2) Najeeb Khoury; (3) Andrea Dooley; (4) Robert Hirsch; and (5) John Kagel. In the event any of

these arbitrators retire or become permanently unavailable, the City and the Council shall jointly select a replacement arbitrator for the list. Any arbitrator not available to conduct the arbitration within 120 calendar days of the referral of the grievance to arbitration will be considered unavailable, and the Project Labor Coordinator shall move to the next arbitrator. The decision of the arbitrator shall be final and binding on all parties to the grievance, and the fee and expenses of such arbitrations shall be borne equally by the parties to the grievance. In cases for which the arbitrator finds a violation of this PLA, the arbitrator may order cessation of the violation and other appropriate relief, and such award shall be served on all parties to the grievance and the City. This grievance process and arbitration proceedings do not impede the ability of the City to advance any available dispute resolution processes and remedies under its prime contracts for violations thereof.

- (b) Failure of the complaining party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the parties to the grievance involved at the particular step where the extension is agreed upon. The arbitrator shall have the authority to make decisions only on issues presented and shall not have the authority to change, amend, add to, or detract from any of the provisions of this PLA.

Section 10.3 Limit on Use of Procedures. Procedures contained in this Article shall not be applicable to any alleged violation of Article 7 or 8, with a single exception that any employee discharged for violation of Section 7.2 may resort to the procedures of this Article to determine only if they were, in fact, engaged in that violation.

Section 10.4 Notice. The Project Labor Coordinator shall be notified by the involved Union(s) and Contractor(s) of all actions at Steps 2 and 3, and further, the Project Labor Coordinator or other City representative shall, upon its own request, be permitted to participate fully in all proceedings at such steps.

ARTICLE 11 **COMPLIANCE**

Section 11.1 Compliance with All Laws. The Council and all Unions, Contractors, and their employees shall comply with all applicable federal and state laws, ordinances, and regulations including, but not limited to, those relating to safety and health, employment, and applications for employment. All employees shall comply with the safety regulations established by the City, the Project Labor Coordinator, and the Contractor. Employees must promptly report any injuries or accidents to a supervisor.

ARTICLE 12
SAFETY AND PROTECTION OF PERSON AND PROPERTY

Section 12.1 Safety.

- (a) It shall be the responsibility of each Contractor to ensure safe working conditions and employee compliance with all applicable safety laws and regulations and any safety rules contained herein or established by the City and the Contractor. It is understood that employees have an individual obligation to use diligent care to perform their work in a safe manner and to protect themselves and the property of the Contractor and the City.
- (b) All Parties, Contractors and Contractor employees shall be bound by the safety, security, and visitor rules established by the Contractor, the Project Labor Coordinator, and the City. These rules will be published and posted. An employee's failure to satisfy his/her obligations under this Section will subject him/her to discipline, up to and including discharge.

Section 12.2 Drug and Alcohol Testing Policy. The Parties and Contractors shall adopt the Drug and Alcohol Testing Policy attached hereto as Attachment D and City Council Policy 100-17 Drug-Free Workplace/City Contractors attached hereto as Attachment E, which are the exclusive Drug and Alcohol Testing Policies for Covered Projects.

Section 12.3 Inspection. The inspection of shipments of equipment, machinery, and construction materials of every kind shall be performed at the discretion of the Contractor by individuals of its choice.

ARTICLE 13
TRAVEL AND SUBSISTENCE

Section 13.1 Travel expenses, travel time, subsistence allowances and/or zone rates, and parking reimbursements shall not be applicable to work under this PLA, except to the extent provided for in Applicable Prevailing Wage Laws. Parking for employees covered by this PLA shall be provided by the Contractor(s) according to the provision of the applicable Master Agreement(s).

ARTICLE 14

APPRENTICES

Section 14.1 **Importance of Training.** The Parties and Contractors recognize the need to maintain continuing support of the programs designed to develop adequate numbers of competent workers in the construction industry, the obligation to capitalize on the availability of the local work force in the area served by the City, and the opportunities to provide continuing work on Covered Projects for Local Workers and Targeted Workers. To these ends, and consistent with any laws or regulations, the Parties and Contractors will facilitate, encourage, and assist Local Workers and Targeted Workers in enrolling in and progressing through Apprenticeship Programs and/or Apprenticeship Readiness Programs in the construction industry that lead to participation in Apprenticeship Programs. The City, the Project Labor Coordinator, other City consultants, the Contractors, and the Council and Unions, will work cooperatively to identify, or establish and maintain, effective programs and procedures for persons interested in entering the construction industry and which will help prepare them for the entry into Apprenticeship Programs.

Section 14.2 **Use of Apprentices.**

- (a) The Unions and Contractors agree to cooperate in referring and employing Apprentices up to the maximum percentage allowed by the State Labor Code or applicable federal law, and the standards of each Apprenticeship Program. The minimum ratios for Apprentice to journeyman hours worked shall be in compliance, at a minimum, with the applicable provisions of the State Labor Code relating to utilization of Apprentices. The City, unless otherwise required by law, shall encourage such utilization, and, both as to Apprentices and the overall supply of experienced workers, the Project Labor Coordinator will work with the Council, Apprenticeship Programs, and Contractors to assure appropriate and maximum utilization of Apprentices and the continuing availability of both Apprentices and journeymen.
- (b) The Parties and Contractors will comply with all applicable laws and regulations in the request for dispatch and employment of Apprentices.
- (c) The Parties and Contractors agree that Apprentices will not be dispatched to Contractors working under this PLA unless there is a journeyman or other Contractor employee working on the Covered Project where the Apprentice is to be employed who is qualified to assist and oversee the Apprentice's progress through the program in which they are participating. Apprentices must be supervised and utilized in accordance with all applicable Federal and State laws.

ARTICLE 15
LEGAL ACTION

Section 15.1 **Legal Action.** The City, Council and Unions recognize the substantial legal costs (including all attorney's fees and associated disbursements) that might accrue with regard to any legal challenge over the adoption by the City of this PLA, and related to claims directly challenging the legality of this PLA, or a particular section or language that has been adopted herein. In the event of a legal challenge, the Council, on behalf of itself and affiliated Unions, agrees to seek to intervene in the legal action and actively participate in the litigation or other action to defend the legality of this PLA, or a particular section or language herein. The failure of the Council to seek to intervene in the legal action and actively participate to defend the legality of this PLA will constitute a material breach of this PLA. In the event the Council is denied leave to intervene in the legal action, the Council shall have its counsel coordinate with the City's counsel, at the Council's own expense, regarding how the Council can best support the City's legal position.

ARTICLE 16
PRE-JOB CONFERENCE

Section 16.1 Each Contractor is required to conduct a pre-job conference with the Unions not later than ten (10) calendar days prior to commencing work. The purpose of the conference will be to, among other things, convey craft manpower needs, the schedule of work for the Covered Project, the Covered Project's rules, and propose preliminary Union work assignments.

Section 16.2 The Project Labor Coordinator may work with the Prime Contractor and Council to facilitate the scheduling of all pre-job conferences, but ensuring each Contractor conducts a pre-job conference in accordance with this PLA is the responsibility of the Prime Contractor. The Contractors shall make the relevant plans and specifications available to the Unions prior to each pre-job conference.

Section 16.3 All preliminary Union work assignments shall be disclosed by each Contractor at the pre-job conference. Should there be Covered Work that was not previously assigned at a pre-job conference, or additional Covered Work be added to the scope of the Covered Project, the Contractor(s) performing such work will conduct a separate pre-job conference.

Section 16.4 Any Union in disagreement with a proposed preliminary assignment shall notify the affected Contractor of its position in writing, with a copy sent to the Project Labor Coordinator, within five (5) calendar days after the pre-job conference occurred. Within five (5) calendar days after the period allowed for Union notices of disagreement with the Contractor's proposed assignments, but prior to the commencement of any work, the Contractor shall make final

assignments in writing with copies sent to the Project Labor Coordinator and Council.

Section 16.5 A Contractor's failure to conduct a pre-job conference in accordance with this PLA is considered a breach of contract, and any affected Union may pursue a grievance under Article 10 of this PLA to seek a remedy for such a violation. Provided, however, if the Contractor has conducted a pre-job conference in accordance with this PLA, that Contractor is not required to participate in any additional pre-job conferences or mark-up meetings related to the original scope(s) of work assigned at the pre-job conference.

Section 16.6 The Project Labor Coordinator shall attend each pre-job conference. At each pre-job conference, the Project Labor Coordinator shall address the programs, goals and outcomes related to Local Worker and Targeted Worker employment, as well as the progress of implementing a work opportunities program.

ARTICLE 17

LABOR/MANAGEMENT COLLABORATION

Section 17.1 Labor/Management Collaboration Meetings. The Parties will conduct periodic labor/management cooperation meetings, which will be chaired jointly by a designee of the City and a designee of the Council. The co-chairs shall determine the frequency and scheduling of the meetings with the assistance of the Project Labor Coordinator. The purpose of the meetings shall be to promote harmonious and stable labor management relations, ensure effective and constructive communication between labor and management Parties, advance the proficiency of work in the industry, and to evaluate and ensure an adequate supply of skilled labor for all Covered Projects. The Project Labor Coordinator shall prepare reports detailing the outcomes of the Local Worker, Targeted Worker, and Apprentice utilization goals on each Covered Project, and the implementation and progress of a work opportunities program. All Parties will be invited to attend the labor/management cooperation meetings. Substantive grievances or disputes shall not be reviewed or discussed by this Committee, but shall be processed pursuant to the provisions of the appropriate Article.

ARTICLE 18

SAVINGS AND SEPARABILITY

Section 18.1 Savings Clause. It is not the intention of any Party to violate any laws governing the subject matter of this PLA. In the event any provision of this PLA is finally held or determined to be illegal or void as being in contravention of any applicable law or regulation, the remainder of the PLA shall remain in full force and effect unless the part or parts so found to be

void are wholly inseparable from the remaining portions of this PLA. If and when any provision(s) of this PLA is finally held or determined to be illegal or void by a court of competent jurisdiction, the Parties will promptly enter into negotiations concerning the substantive effect of such decision for the purposes of achieving conformity with the requirements of any applicable laws and the intent of the Parties hereto. If the legality of this PLA is challenged and any form of injunctive relief is granted by any court suspending temporarily or permanently the implementation of this PLA, then all Covered Projects that would otherwise be covered by this PLA should be continued to be bid and constructed without application of this PLA, so that there is no delay or interference with the ongoing planning, bidding, and construction of any Covered Projects.

Section 18.2 Effect of Injunctions or Other Court Orders. The Parties recognize the right of the City to withdraw, at its absolute discretion, the utilization of the PLA as part of any bid specification should a court of competent jurisdiction issue any order, or any applicable statute that could result, temporarily or permanently, in delay of the bidding, awarding, and/or construction on the project, or jeopardize project funding.

ARTICLE 19 WAIVER

Section 19.1 Waiver. A waiver of or a failure to assert any provisions of this PLA by any or all of the Parties hereto shall not constitute a waiver of such provision for the future. Any such waiver shall not constitute a modification of the PLA or change in the terms and conditions of the PLA and shall not relieve, excuse or release any of the Parties or Contractors from any of their rights, duties, or obligations hereunder.

ARTICLE 20 AMENDMENTS

Section 20.1 Amendments. The provisions of this PLA can be renegotiated, supplemented, rescinded, or otherwise altered only by mutual agreement in writing, hereafter signed by the City and the Council.

ARTICLE 21 EFFECTIVENESS OF THE PLA

Section 21.1 Term and Application.

- (a) Term of Years. This PLA shall become effective July 1, 2024, if executed by the City, Council, and Unions, and approved by the City Attorney in accordance with San Diego Charter Section 40. Any Union that fails to sign the PLA prior to approval by the City Attorney

shall not be a party to the PLA or covered by the terms of the Agreement. The PLA shall continue in full force and effect for a term of seven (7) years after the effective date.

- (b) Application to Covered Projects. The PLA will apply only to Covered Contracts for Covered Projects for which the bid advertisement date for the Covered Contract is between July 1, 2024 and seven (7) years from the effective date of the PLA, and it will continue in effect with regard to each Covered Project until all Covered Work under a Covered Contract is completed and accepted by the City, under procedures described in Section 21.2 below. The PLA shall be included in all Covered Contracts or Covered Professional Services Agreements under which Covered Work may be performed.
- (c) Extension. Either the City or the Council may provide written notice to the other not less than nine (9) months prior to the expiration of the PLA of its interest in extending the term of the PLA. Failure to provide such notice nine (9) months prior shall not preclude either the City or the Council from negotiating to extend the term of the PLA, but may impact the ability of the City Council to approve an extension prior to this PLA's expiration. Subject to adoption by the City Council and execution by the Council, the terms and conditions set forth under the PLA may not exceed five (5) years, unless approved by City ordinance. Absent mutual agreement on the extension as described above, the PLA shall expire.

Section 21.2 Turnover and Final Acceptance of Completed Work.

- (a) Construction of any phase, portion, section, or segment of Covered Projects shall be deemed complete when such phase, portion, section or segment has been turned over to the City by the Prime Contractor and the City has accepted such phase, portion, section, or segment. As areas and systems of the Covered Project are inspected and construction-tested and/or approved and accepted by the City or third parties on behalf of the City, the PLA shall have no further force or effect on such items or areas, except when the Contractor is directed by the City to engage in repairs or modifications required by its Covered Contract(s) with the City.
- (b) Notice of each final acceptance received by the Contractor will be provided to the Council with the description of what portion, segment, etc. has been accepted. Final acceptance may be subject to a "punch" list, and in such case, the PLA will continue to apply to each such item on the list until it is completed to the satisfaction of the City and Notice of Acceptance is given by the City or its representative to the Prime Contractor.

Section 21.3 Continuation of Master Agreements. A Master Agreement shall continue in full force and effect with regard to Covered Work as set forth in Section 3.5, until the Master Agreement is modified by parties thereto.

In such case, Contractors and Unions agree to recognize and implement all applicable changes on their effective dates as set forth in the modified Master Agreement, except as otherwise provided by this PLA; provided, however, that any such provisions negotiated in said Master Agreements will not apply to work covered by this PLA if such provisions are less favorable to the Contractor performing Covered Work than those uniformly required of Contractors for construction work normally covered by those agreements; nor shall any provision be recognized or applied if it may be construed to apply exclusively or predominantly to work covered by this PLA. Any disagreement between any Party and Contractor over application of a modified term of a Master Agreement shall be resolved under the procedures established in Article 10.

Section 21.4 Final Termination. Final termination of all obligations, rights, and liabilities, and disagreements shall occur upon receipt by the Council of a Notice from the City saying that no work remains within the scope of the PLA.

ARTICLE 22

WORK OPPORTUNITIES PROGRAM

Section 22.1 The magnitude, duration, and complexity of the Covered Projects will require large numbers of skilled craft personnel and create significant economic opportunities for Local Workers and Targeted Workers. It is therefore the understanding and intention of the Parties to use the opportunities provided by the extensive amount of work to collaborate and implement programs and procedures, which may include, for example, North America's Building Trades Unions Multi-Craft Core Curriculum (MC3) Apprenticeship Readiness Programs, to prepare persons, especially Local Workers and Targeted Workers, for entrance into Apprenticeship Programs to begin or continue their construction careers on Covered Projects and future projects. With assistance from the Project Labor Coordinator, the Contractors, the Unions and their affiliated regional and national organizations will work jointly to promptly develop and implement procedures for the identification of craft needs, the scheduling of work to facilitate the utilization of available craft workers, and the securing of services of craft workers in sufficient numbers to meet the high demands of the Covered Projects to be undertaken.

Section 22.2 The Parties support the development of increased numbers of skilled construction workers who are Local Workers and Targeted Workers to meet the labor needs of Covered Projects. Towards that end, the Parties, together with the Project Labor Coordinator, agree to develop and implement a work

opportunities program for Local Workers and Targeted Workers to maximize construction career opportunities and create a construction career pipeline to becoming employed on Covered Projects. In furtherance of the foregoing, the Council and Unions specifically agree to work with the Project Labor Coordinator to:

- (a) Collaborate with existing or newly created MC3 apprenticeship readiness programs in San Diego County to offer opportunities for Local Workers and Targeted Workers, including students, to enroll in free short-term construction apprenticeship readiness training to prepare them to enter into Apprenticeship Programs and become employed by a Contractor on Covered Projects. The Project Labor Coordinator, with the assistance of the Parties, will assist with the recruitment, career placement, and tracking of such Local Workers and Targeted Workers who graduate from these apprenticeship readiness programs; and
- (b) The Parties will cooperate and collaborate with the Project Labor Coordinator to conduct outreach to and include Local Workers and Targeted Workers from traditionally underrepresented segments of the local population in the construction craft workforce for Covered Projects; and
- (c) The Project Labor Coordinator, with input from the Council, shall produce detailed annual reports to measure and report the outcomes of the policies, requirements, and programs established in this PLA, including the achievement of Local Worker employment participation on Covered Projects; and
- (d) The Unions will partner with the Contractors and Project Labor Coordinator to conduct outreach and recruitment activities by establishing or continuing to maintain existing centers, programs, and events to facilitate the entry of Local Workers and Targeted Workers into the building and construction trades. These programs shall serve as a resource for preliminary orientation, assessment of construction aptitude, referral to MC3 apprenticeship readiness programs or Apprenticeship Programs, referral to hiring halls, and provide tailored orientation and mentoring for women; and
- (e) The Unions shall assist Local Workers with contacting the Apprenticeship Programs for the crafts and trades they are interested in. The Unions shall assist Local Workers who are seeking employment on the Covered Project and provide opportunities for Union membership by assessing their work experience and giving them credit for provable past experience in their relevant craft or trade, including experience gained working for non-Union Contractors. The Unions shall put on their rolls qualified bona fide Local Workers for employment on the Covered Project.

- (f) Jobs Coordinator. Each Contractor shall utilize the Jobs Coordinator retained by the Prime Contractor to assist with achieving and exceeding the Local Worker goals set forth in Section 4.5 of this PLA. In addition, each Contractor shall utilize the Jobs Coordinator to assist the Contractor in fulfilling its work opportunities program and “Helmets to Hardhats” goals described herein.

The City may elect to develop and implement a Jobs Coordinator program with input from the Council that will include a pre-qualification process, selection guidelines and accountability measures to ensure the Jobs Coordinators are qualified and capable of performing the Jobs Coordinator function in accordance with the intent of the PLA. Alternatively, the City may direct the Prime Contractor to develop and implement such a program. Regardless of which entity develops and implement the program, the City shall have the right to remove Jobs Coordinators from the pre-qualification list, in which case such individuals or entities shall not be eligible for further selection by Prime Contractors.

Section 22.3 Joint Subcommittee on Work Opportunities. To carry out the intent and purpose of the work opportunities program, a joint subcommittee under the PLA shall be established, jointly chaired by a designee of the City and a designee of the Council, to oversee the effective development and implementation of the programs and policies described herein, and to work with representatives of each Union’s Apprenticeship Program and representatives of the MC3 Apprenticeship Readiness Programs to maximize employment opportunities for Local Workers and Targeted Workers who reflect the diversity of the communities surrounding each Covered Project, and who may not be previously qualified for the construction career opportunities created by the Covered Projects. The joint subcommittee will meet at least quarterly to promptly facilitate its purposes in an expeditious manner as soon as this PLA becomes effective. All Unions and Prime Contractors working on active Covered Projects may be invited to attend the joint subcommittee meetings, and the joint chairs, at their discretion, may invite other community partners to attend the committee meetings. The Project Labor Coordinator will assist with the scheduling and facilitation of the joint subcommittee meetings.

ARTICLE 23

HELMETS TO HARDHATS


Section 23.1 Veterans Entry into Building and Construction Trades. The Parties recognize a desire to facilitate the entry into the building and construction trades of Veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the

services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter "Center") and the Center's "Helmets to Hardhats" program to serve as a resource for preliminary orientation, assessment, and construction aptitude, referral to Apprenticeship Programs or hiring halls, counseling and mentoring, support network, employment opportunities, and other needs as identified by the Parties.

Section 23.2 Integrated Database. The Unions and Contractors agree to coordinate with the Center to create and maintain an integrated database of Veterans interested in working on a Covered Project and of apprenticeship and employment opportunities for a Covered Project. The Project Labor Coordinator may assist the Contractors and Unions with scheduling opportunities for outreach, recruitment, interviews, assessment and commencing with an Apprenticeship Program's application and entrance process. The Contractors and Unions agree to engage and participate in such opportunities.

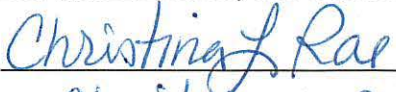
In witness whereof, the Parties have caused this Project Labor Agreement for the City to be executed as of the date and year stated below.

CITY OF SAN DIEGO

By: 
Name: Todd Gloria
Title: Mayor
Dated: July 1, 2024

APPROVED AS TO FORM

MARA W. ELLIOTT, CITY ATTORNEY

By:  for Bonny Hsu
Name: Christina L. Rae
Title: Deputy City Attorney
Dated: July 1, 2024

SAN DIEGO BUILDING AND CONSTRUCTION TRADES COUNCIL

By: Carol Kim
70D82C890EED49C

Name: Carol Kim

Title: Business Manager

Dated: June 25, 2024

SIGNATORY UNIONS
(See Attached)

SIGNATORY UNIONS

DocuSigned by:
By: Michael Patterson
Allied Workers Local 5

DocuSigned by:
By: Luis Miramontes
Boilermakers Local 92

DocuSigned by:
By: Chris Brisson
Brooklyn & Allied Crafts Local 4

DocuSigned by:
By: Jack Alvarado
Cement Masons Local 500 / Area 744

DocuSigned by:
By: [Signature]
Electrical Workers Local 569

DocuSigned by:
By: [Signature]
Elevator Constructors Local 18

DocuSigned by:
By: Ernesto Toscano
Painters & Allied Trades District Council 36

DocuSigned by:
By: Beau Coleman
Iron Workers Local 229

By: _____
Laborers Local 89

DocuSigned by:
By: Christian Betancourt
Plasterers Local 200

DocuSigned by:
By: Jose Sanchez
Plaster Tenders Local 1414

By: _____
Operating Engineers Local 12

DocuSigned by:
By: Steve Bringer
Plumbers & Pipefitters Local 230

By: _____
Operating Engineers Local 12

DocuSigned by:
By: Paul Colmenero
Roofers & Waterproofers Local 45

By: _____
Operating Engineers Local 12

DocuSigned by:
By: [Signature]
Laborers Local 1184

DocuSigned by:
By: Dave Gauthier
Sheet Metal Workers' Local 206

DocuSigned by:
By: Ed learn
Laborers Local 345

DocuSigned by:
By: Jose Estrada
Teamsters Local 166

DocuSigned by:
By: Ricardo Perez
UA Local 345

DocuSigned by:
By: SERGIO RASCON
Laborers Local 300

DocuSigned by:
By: Todd Barry on behalf of B.M. Robert Cooper
Road Sprinkler Fitters Local 669

DocuSigned by:
By: Jon Preciado
Southern California District Council of Laborers

DocuSigned by:
By: Doug Hick
Southwest Regional Council of Carpenters

DocuSigned by:
By: Victor Torres
Teamsters Local 481

SIGNATORY UNIONS

DocuSigned by:
By: Michael Patterson
Allied Workers Local 5

DocuSigned by:
By: Luis Miramontes
Boilermakers Local 92

DocuSigned by:
By: Chris Brisson
Brooklyn 7 & Allied Crafts Local 4

DocuSigned by:
By: Jack Alvarado
Cement Masons Local 500 / Area 744

DocuSigned by:
By: [Signature]
Electrical Workers Local 569

By: _____
Elevator Constructors Local 18

By: _____
Painters & Allied Trades District Council 36

DocuSigned by:
By: Beau Coleman
Iron Workers Local 229

By: Valentine R. Macedo
Laborers Local 89

DocuSigned by:
By: Christian Betancourt
Plasterers Local 200

DocuSigned by:
By: Jose Sanchez
Plaster Tenders Local 1414

By: _____
Operating Engineers Local 12

DocuSigned by:
By: Steve Beringer
Plumbers & Pipefitters Local 230

By: _____
Operating Engineers Local 12

DocuSigned by:
By: Paul Colmenero
Roofers & Waterproofers Local 45

By: _____
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Sheet Metal Workers' Local 206

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Teamsters Local 166

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By: Ricardo Perez
UA Local 345

DocuSigned by:
By: SERGIO RASCON
Laborers Local 300

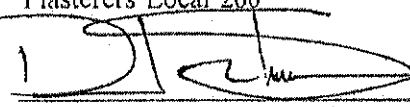
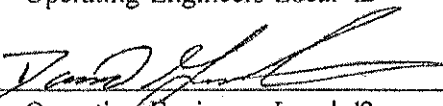
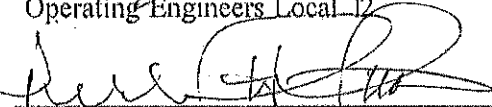
DocuSigned by:
By: Todd Barry on behalf of B.M. Robert Cooper, Jr.
Road Sprinkler Fitters Local 669

DocuSigned by:
By: Jon Preciado
Southern California District Council of Laborers

By: _____
Southwest Regional Council of Carpenters

DocuSigned by:
By: Victor Torres
Teamsters Local 481

SIGNATORY UNIONS

By: _____ Allied Workers Local 5	By: _____ Boilermakers Local 92
By: _____ Bricklayer & Allied Crafts Local 4	By: _____ Cement Masons Local 500 / Area 744
By: _____ Electrical Workers Local 569	By: _____ Elevator Constructors Local 18
By: _____ Painters & Allied Trades District Council 36	By: _____ Iron Workers Local 229
By: _____ Laborers Local 89	By: _____ Plasterers Local 200
By: _____ Plaster Tenders Local 1414	By:  Operating Engineers Local 12
By: _____ Plumbers & Pipefitters Local 230	By:  Operating Engineers Local 12
By: _____ Roofers & Waterproofers Local 45	By:  Operating Engineers Local 12
By: _____ Laborers Local 1184	By: _____ Sheet Metal Workers' Local 206
By: _____ Laborers Local 345	By: _____ Teamsters Local 166
By: _____ UA Local 345	By: _____ Laborers Local 300
By: _____ Road Sprinkler Fitters Local 669	By: _____ Southern California District Council of Laborers
By: _____ Southwest Regional Council of Carpenters	By: _____ Teamsters Local 481

ATTACHMENT A – CONSTRUCTION PROJECTS NOT PROCURED BY THE CITY

The following construction projects that are not procured by the City shall be considered Covered Projects for the purposes of this Agreement if the bid advertisement for these projects occurs during the effective dates pursuant to Section 21.1:

1. Phase III - Convention Center Expansion;
2. Phase I - Ocean Beach Pier Replacement;
3. New City Administration Building;
4. San Diego Fire Training Facility; and
5. Resource Recovery Facility at the Miramar Landfill

* In the event that the parties to the Project Labor Agreement for Construction of Pure Water Program Phase I Projects (Pure Water PLA), dated June 16, 2020, amend that agreement such that the terms of this PLA cover and apply to Pure Water Phase II projects, the terms and conditions under this PLA shall apply so long as a bid for the covered project or project work has not yet been advertised.

The City Council may elect to, by resolution, add other construction projects, not otherwise covered by this PLA, for coverage as Covered Projects.

ATTACHMENT B – LETTER OF ASSENT

To be signed by all Contractors awarded work covered by the Project Labor Agreement prior to commencing work.

[CONTRACTOR'S LETTERHEAD]

DATE

Project Labor Coordinator

Address

Address

Address

Attention: _____

Re: City of San Diego Project Labor Agreement

To Whom It May Concern:

This is to confirm **[Name of Company]** agrees to be bound by the City of San Diego's Project Labor Agreement ("PLA"), as such Agreement may from time to time be amended by the Parties or interpreted pursuant to its terms. Such obligation to be bound by the PLA shall extend to all work covered by the PLA undertaken by this Company on the Covered Project pursuant to **[Insert City Contract No. _____ and Name of Covered Project]**, and this Company shall require all of its subcontractors of whatever tier to be similarly bound for all work within the scope of the PLA by signing and furnishing to you an identical Letter of Assent prior to their commencement of work.

Sincerely,

[Name of Construction Company]

By:

[Name and Title of Authorized Executive]

[Copies of this Letter must be submitted to the Project Labor Coordinator and to the Council consistent with Article 3, Section 3.3(b)]

ATTACHMENT C-1 – WORKFORCE DISPATCH REQUEST FORM

City of San Diego Project Labor Agreement

The City of San Diego Project Labor Agreement (“PLA”) establishes a goal of at least thirty percent (30%) of the total craft hours on each Covered Project being performed by Local Workers. The City PLA also establishes a goal of at least ten percent (10%) of the total craft hours on each Covered Project being performed by Targeted Workers. The Unions and Contractors agree that Local Workers shall be first referred for Covered Projects when requested through use of this Workforce Dispatch Request Form.

C O N T R A C T O R U S E O N L Y

Please complete and fax/email this form to the applicable union to request craft workers that fulfill the hiring requirements for this project. After faxing/emailing your request, please call the local union to verify receipt and substantiate their capacity to furnish workers as specified below. Please print and retain copies of your fax or email transmission for your records.

TO:	Local Union and #	
	Email/Fax	
	Phone	
CC:	Project Labor Coordinator	
	Email/Fax	
FROM:	Contractor	
	Issued by	
	Email/Fax	
	Phone	

UNION CRAFT WORKER REQUEST

Craft Classification	Journeyman or Apprentice	Local Worker and/or Veteran	No. of Workers
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	*	
Total Number of Workers Requested:			

In accordance with the PLA, Article 4, Union Recognition and Employment, we are requesting the union:

* Please provide priority referral of Local Workers, based on zip code residence as described on the following page, or veteran status.

WORKER REPORTING INSTRUCTIONS:

Reporting Date:		Reporting Time:	
Reporting To:		On Site Phone:	
Project Name:			
Project Location:			
Special Instructions:			

U N I O N U S E O N L Y

Please complete the "Union Use Only" section and fax or email both pages to the requesting Contractor and Project Labor Coordinator.

Date Dispatch Received:				
Dispatch Received by:				
Date Worker(s) Dispatched:				
Name:	JM or App	Veteran	Local Worker? *	Zip Code
	<input type="checkbox"/> JM <input checked="" type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> JM <input type="checkbox"/> APP	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

* PLEASE NOTE: By marking the "No" box for either the "Veteran", "Local Worker", and "Targeted Worker" categories you are certifying, on behalf of the Union, that the Union has exhausted all reasonable efforts to locate and dispatch such Veteran, Local Worker, or Targeted Worker.

** Please indicate number of the Targeted Worker category (a through k, as shown below). You may indicate multiple categories per worker.

A **Local Worker** is an individual who resides in a Disadvantaged Area or a Veteran residing anywhere. Below is a list of the Disadvantaged Area zip codes within the San Diego area.

91901	91902	91905	91906	91910	91911	91913	91914	91915	91916	91917
91910	91932	91934	91935	91941	91942	91945	91948	91950	91962	91963
91941	91978	91980	92003	92004	92007	92008	92009	92010	92011	92014
92004	92020	92021	92024	92025	92026	92027	92028	92029	92036	92037
92025	92054	92055	92056	92057	92058	92059	92060	92061	92064	92065
92057	92067	92069	92070	92071	92075	92078	92081	92082	92083	92084
92071	92091	92093	92096	92101	92102	92103	92104	92105	92106	92107
92101	92109	92110	92111	92113	92114	92115	92116	92117	92118	92119
92113	92121	92122	92123	92124	92126	92127	92128	92129	92130	92131
92124	92135	92136	92139	92140	92145	92154	92155	92161	92173	92182
92140	92536	92672								

ATTACHMENT D – DRUG AND ALCOHOL TESTING POLICY

The Parties recognize the problems that drug and alcohol abuse have created in the construction industry and the need to develop drug and alcohol abuse prevention programs. Accordingly, the Parties agree that in order to enhance the safety of the workplace and to maintain a drug and alcohol-free work environment, individual Contractors shall require applicants or employees to undergo drug and alcohol testing in accordance with this PLA and this policy, Attachment D – Drug and Alcohol Testing Policy, hereafter “PLA Drug Policy” and City Council Policy No. 100-17, “Drug-Free Workplace/City Contractors,” Attachment E. To the extent there is any conflict between the terms set forth in the PLA Drug Policy and in the City Council Policy No. 100-17, the terms set forth in City Council Policy No. 100-17 shall prevail and apply.

1. It is understood that the use, possession, transfer, or sale of illegal drugs, narcotics, or other unlawful substances, as well as being under the influence of alcohol and the possession of or consuming alcohol is absolutely prohibited while employees are on the Contractor’s job premises or while working on any jobsite in connection with work performed under the PLA.
2. No Contractor may implement a drug and alcohol testing program that does not conform in all respects to the provisions of this Policy.
3. No Contractor may implement drug and alcohol testing at any jobsite unless written notice is given to the Union setting forth the location of the jobsite, a description of the project under construction, and the name and telephone number of the Prime Contractor's project manager. Said notice shall be provided at the pre-job conferences for each Covered Project. Failure to give such notice shall make any drug and alcohol testing engaged in by the Contractor a violation of the Agreement and subject to the Article 10 grievance procedure.
4. A Contractor who elects to implement drug and alcohol testing pursuant to this Policy shall require all craft employees on the Covered Project to be tested. With respect to individuals who become employed on the Covered Project subsequent to the proper implementation of a valid drug and alcohol testing program, such test shall be administered upon the commencement of employment on the project, whether by referral from a Union Dispatch Office, transfer from another project, or another method. Individuals who were employed on the project prior to proper implementation of a valid drug and alcohol testing program may only be subjected to testing for the reasons set forth in paragraphs 5(g)(1) through 5(g)(3) and paragraphs 6(a) through 6(e) of this Policy. Refusal to undergo such testing shall be considered sufficient grounds to deny employment on the project.
5. The following procedure shall apply to all drug and alcohol testing:
 - a. The Contractor may request urine samples only. The applicant or employee shall not be observed when the urine specimen is given. An applicant or employee, at his or her sole option, shall, upon request, receive a blood test in lieu of a urine test. No employee of the Contractor shall draw blood from a bargaining unit employee, touch or handle urine specimens, or in any way become involved in the chain of custody of urine or blood specimens. A Union Business Representative, subject to the approval of the individual applicant or employee, shall be permitted to accompany the applicant or employee to the collection facility to observe the collection, bottling, and sealing of the specimen.

- b. A Contractor may request an applicant or employee promptly, within four (4) hours of the Contractor's request, perform an alcohol breathalyzer test at a certified laboratory only, and cutoff levels shall be those mandated by applicable state or federal law.
- c. The testing shall be done by a laboratory approved by the Substance Abuse & Mental Health Services Administration (SAMHSA), which is chosen by the Contractor and the Union.
- d. An initial test shall be performed using the Enzyme Multiplied Immunoassay Technique (EMIT). In the event a question or positive result arises from the initial test, a confirmation test must be utilized before action can be taken against the applicant or employee. The confirmation test will be by Gas Chromatography/Mass Spectrometry (GC/MS). Cutoff levels for both the initial test and confirmation test will be those established by SAMHSA and this Policy. Should these SAMHSA levels be changed during the course of the PLA or new testing procedures are approved, then these new regulations will be deemed as part of this existing PLA. Confirmed positive samples will be retained by the testing laboratory in secured long-term frozen storage for a minimum of one (1) year. Handling and transportation of each sample must be documented through strict chain-of-custody procedures.
- e. In the event of a confirmed positive test result, the applicant or employee may request, within forty-eight (48) hours, a sample of his/her specimen from the testing laboratory for purposes of a second test to be performed at a second laboratory, designated by the Union and approved by SAMHSA. The retest must be performed within ten (10) days of the request. Chain of custody for this sample shall be maintained by the Contractor between the original testing laboratory and the Union's designated laboratory. Retesting shall be performed at the applicant's or employee's expense. In the event of conflicting test results, the Contractor may require a third test, at the Contractor's expense.
- f. If, as a result of the above testing procedure, it is determined that an applicant or employee has tested positive, this shall be considered sufficient grounds to deny the applicant or employee his/her employment on the project.
- g. No individual who tests negative for drugs and alcohol pursuant to the above procedure and becomes employed on the project shall again be subjected to drug and alcohol testing with the following exceptions:
 - 1) Employees who are involved in industrial accidents resulting in damage to plant, property, or equipment or injury to him/her or others may be tested for drugs or alcohol pursuant to the procedures stated hereinabove.
 - 2) The Contractor may test employees following thirty (30) days' advance written notice to the employee(s) to be tested and to the applicable Union. Notice to the applicable Union shall be sent by certified mail to the affected Union with a copy to the Project Labor Coordinator. Such testing shall be pursuant to the procedures stated hereinabove.
 - 3) The Contractor may test an employee where the Contractor has reasonable cause to believe that the employee is impaired from performing his/her job. Reasonable cause shall be defined as being aberrant or unusual behavior, the type of which is a recognized and accepted symptom of impairment (e.g., slurred speech, unusual lack of muscular coordination). Such behavior must be actually observed by at least two (2) persons, one (1) of whom shall be a supervisor who has been trained to recognize the symptoms of drug and alcohol abuse or impairment and the other of whom shall be the Job Steward. If the Job Steward is unavailable

11. The Contractor agrees that results of urine and blood tests performed hereunder will be considered medical records held confidential to the extent permitted or required by law. Such records shall not be released to any persons or entities other than designated Contractor representatives and the applicable Union. Such release to the applicable Union shall only be allowed upon the signing of a written release by the employee, and the information contained therein shall not be used to discourage the employment of the individual applicant or employee on any subsequent occasion.
12. Employees who seek voluntary assistance for substance abuse may not be disciplined for seeking such assistance. Requests from employees for such assistance shall remain confidential and shall not be revealed to other employees or management personnel without the employee's consent. Employees enrolled in substance abuse programs will be subject to all Contractor rules, regulations, and job performance standards with the understanding that an employee enrolled in such a program is receiving treatment for an illness.
13. The Contractor shall indemnify and hold the Union harmless against any and all claims, demands, suits, or liabilities that may arise out of the application of this Policy.
14. This Policy shall constitute the only Policy in effect between the Parties concerning drug and alcohol abuse, prevention, and testing. Any modifications thereto must be accomplished pursuant to collective bargaining negotiations between the Parties.

SPECIMEN REPORTING CRITERIA

Initial Test Analyte	Initial Test Cutoff ¹	Confirmatory Test Analyte	Confirmatory Test Cutoff Concentration
Marijuana metabolites (THCA) ²	50 ng/ml ³	THCA	15 ng/ml
Cocaine metabolite (Benzoylecgonine)	150 ng/ml ³	Benzoylecgonine	100 ng/ml
Codeine/ Morphine	2000 ng/ml	Codeine Morphine	2000 ng/ml 2000 ng/ml
Hydrocodone/ Hydromorphone	300 ng/ml	Hydrocodone Hydromorphone	100 ng/ml 100 ng/ml
Alcohol	0.02%	Ethanol	0.02%
Oxycodone/ Oxymorphone	100 ng/ml	Oxycodone Oxymorphone	100 ng/ml 100 ng/ml
6-Acetylmorphine	10 ng/ml	6-Acetylmorphine	10 ng/ml
Phencyclidine	25 ng/ml	Phencyclidine	25 ng/ml
Amphetamine/ Methamphetamine	500 ng/ml	Amphetamine Methamphetamine	250 ng/ml 250 ng/ml
MDMA ⁴ /MDA ⁵	500 ng/ml	MDMA MDA	250 ng/ml 250 ng/ml
Initial Test Analyte	Initial Test Cutoff	Confirmatory Test Analyte	Confirmatory Test Cutoff Concentration
Barbiturates	300 ng/ml	Barbiturates	200 ng/ml
Benzodiazepines	300 ng/ml	Benzodiazepines	300 ng/ml
Methadone ⁶	300 ng/ml	Methadone	100 ng/ml
Methaqualone	300 ng/ml	Methaqualone	300 ng/ml
Propoxyphene	300 ng/ml	Propoxyphene	100 ng/ml

¹ For grouped analytes (i.e., two or more analytes that are in the same drug class and have the same initial test cutoff):

Immunoassay: The test must be calibrated with one analyte from the group identified as the target analyte. The cross-reactivity of the immunoassay to the other analyte(s) within the group must be 80 percent or greater; if not, separate immunoassays must be used for the analytes within the group.

Alternate technology: Either one analyte or all analytes from the group must be used for calibration, depending on the technology. At least one analyte within the group must have a concentration equal to or greater than the initial test cutoff or, alternatively, the sum of the analytes present (i.e., equal to or greater than the laboratory's validated limit of quantification) must be equal to or greater than the initial test cutoff.

² An immunoassay must be calibrated with the target analyte, 9-tetrahydrocannabinol-9-carboxylic acid (THCA).

³ **Alternate technology (THCA and benzoylecgonine):** The confirmatory test cutoff must be used for an alternate technology initial test that is specific for the target analyte (i.e., 15 ng/ml for THCA, 100 ng/ml for benzoylecgonine).

⁴ Methylendioxyamphetamine (MDMA)

⁵ Methylendioxyamphetamine (MDA)

⁶ Employees with a prescription for methadone who are using the medication as prescribed, and are not impaired and can safely perform their work, will not be considered to have violated this Policy.

**MEMORANDUM OF UNDERSTANDING REGARDING
"QUICK" DRUG SCREENING TESTS PURSUANT TO
ATTACHMENT D – DRUG AND ALCOHOL TESTING POLICY**

It is hereby agreed between the Parties hereto that a Contractor who has otherwise properly implemented drug and alcohol testing, as set forth in the Policy, shall have the right to offer an applicant or employee a "quick" drug screening test. This "quick" screen test shall consist either of the "ICUP" urine screen or similar test or an oral screen test. The applicant or employee shall have the absolute right to select either of the two "quick" screen tests, or to reject both and request a full drug test.

An applicant or employee who selects one of the "quick" screen tests, and who passes the test, shall be put to work immediately. An applicant or employee who fails the "quick" screen test, or who rejects the "quick" screen tests, shall be tested pursuant to the procedures set forth in the Policy. The sample used for the "quick" screen test shall be discarded immediately upon conclusion of the test. An applicant or employee shall not be deprived of any rights granted to them by the Policy as a result of any occurrence related to the "quick" screen test.

ATTACHMENT E – CITY COUNCIL POLICY NO. 100-17

“DRUG-FREE WORKPLACE/CITY CONTRACTORS”

CITY OF SAN DIEGO, CALIFORNIA

COUNCIL POLICY

CURRENT

SUBJECT: DRUG-FREE WORKPLACE/CITY CONTRACTORS
POLICY NO.: 100-17
EFFECTIVE DATE: May 20, 1991

BACKGROUND:

The issue of substance abuse, the misuse of both legal and illegal drugs, has been identified as a major problem. It is well documented that substance abuse in the workplace can negatively impact employee performance, worker safety and the safety of the general public.

PURPOSE:

It is the intent of the City Council that the City of San Diego take a leadership role in addressing the issue of drug abuse in the workplace. It is the purpose of this policy to establish the requirement that all City construction contractors, consultants, grantees and providers of non-professional services agree to comply with this Drug-Free Workplace Policy.

POLICY:

Section 1. Definitions

- A. “Drug-free workplace” means a site for the performance of work done in connection with a contract let by City of San Diego for the construction, maintenance, or repair of any facility or public work by an entity at which employees of the entity are prohibited from engaging in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance in accordance with the requirements of this section.
- B. “Employee” means the employee of a contractor directly engaged in the performance of work pursuant to a contract as described in Section 2.
- C. “Controlled substance” means a controlled substance in schedules I through V of Section 202 of the Controlled Substance Act (21 U.S.C. Sec. 812).
- D. “Contractor” means the department, division, or other unit of a person or organization responsible to the contractor for the performance of a portion of the work under the contract.

Section 2. City Contractor Requirements

- A. Every person or organization awarded a contract or grant by the City of San Diego for the provision of services shall certify to the City that it will provide a drug-free workplace by doing all of the following:
 - (1) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation,

possession, or use of a controlled substance is prohibited in the person's organization's workplace and specifying the actions that will be taken against employees for violations of the prohibition.

- (2) Establishing a drug-free awareness program to inform employees about all of the following:
 - (a) The dangers of drug abuse in the workplace.
 - (b) The person's or organization's policy of maintaining a drug-free workplace.
 - (c) Any available drug counseling, rehabilitation, and employee assistance programs.
 - (d) The penalties that may be imposed upon employees for drug abuse violations.
 - (3) Posting the statement required by subdivision (1) in a prominent place at contractors main office. For projects large enough to necessitate a construction trailer at the job site, the required signage would also be posted at the job site.
- B. Contractors shall include in each subcontract agreement language which indicates the subcontractor's agreement to abide by the provisions of subdivisions (1) through (3) inclusive of Section 2A. Contractors and subcontractors shall be individually responsible for their own drug-free workplace programs.

HISTORY:

Adopted by Resolution R-277952 05/20/1991

APPENDIX A –

MEMORANDUM OF UNDERSTANDING #1

STARTUP AND COMMISSIONING

The Parties and Contractors agree that work covered by this PLA on Covered Projects includes all onsite physical craft work that is part of startup and commissioning, including, but not limited to, system flushes and testing, loop checks, rework and modifications, and functional and operational testing up to and including the final running test. It is understood that the City's personnel and/or its representatives, together with the manufacturer's and/or vendor's representatives, and/or project operating personnel may supervise and direct the startup, commissioning, rework, and modification activity, and that the onsite physical craft work is typically performed as part of a joint effort with these representatives and personnel. A manufacturer or its representatives may perform industry standard startup and commissioning work to satisfy its guarantee or warranty on a piece of equipment, and such work will be exempt from the PLA to the extent the work is excluded by Section 3.2(g) and/or Section 3.2(h).

CERTIFICATIONS AND FORMS

The Bidder, by submitting its electronic bid, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certifications, forms and affidavits submitted as part of this bid are true and correct.

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.

**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

County of San Diego

The bidder, being first duly sworn, deposes and says that he or she is authorized by 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.

CONTRACTOR CERTIFICATION

DRUG-FREE WORKPLACE

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 5-1.3, "Drug-Free Workplace", of the project specifications, and that;

This company has in place a drug-free workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of subdivisions a) through c) of the policy as outlined.

CONTRACTOR CERTIFICATION

AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the Americans With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 5-1.2, "California Building Code, California Code of Regulations Title 24 and Americans with Disabilities Act". of the project specifications, and that:

This company has in place workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of the policy as outlined.

CONTRACTOR CERTIFICATION

CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

I declare under penalty of perjury that I am authorized to make this certification on behalf of the company submitting this bid/proposal, that as Contractor, I am familiar with the requirements of City of San Diego Municipal Code § 22.3004 regarding Contractor Standards as outlined in the WHITEBOOK, Section 5-1.4, ("Contractor Standards and Pledge of Compliance"), of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3004.

CONTRACTOR CERTIFICATION

EQUAL BENEFITS ORDINANCE CERTIFICATION

I declare under penalty of perjury that I am familiar with the requirements of and in compliance with the City of San Diego Municipal Code § 22.4300 regarding Equal Benefits Ordinance.

CONTRACTOR CERTIFICATION

EQUAL PAY ORDINANCE CERTIFICATION

Contractor shall comply with the Equal Pay Ordinance (EPO) codified in the San Diego Municipal Code (SDMC) at section 22.4801 through 22.4809, unless compliance is not required based on an exception listed in SDMC section 22.4804.

Contractor shall require all of its subcontractors to certify compliance with the EPO in their written subcontracts.

Contractor must post a notice informing its employees of their rights under the EPO in the workplace or job site.

By signing this Contract with the City of San Diego, Contractor acknowledges the EPO requirements and pledges ongoing compliance with the requirements of SDMC Division 48, section 22.4801 et seq., throughout the duration of this Contract.

CONTRACTOR CERTIFICATION

IN-USE OFF-ROAD DIESEL FUELED FLEET REGULATION (OFF-ROAD REGULATION) COMPLIANCE

I hereby certify that Contractor is familiar with the requirements 13 CCR 2449, 2449.1, and 2449.2, as well as Attachment F, In-Use Off-Road Diesel Fueled Fleet Regulation (Off-Road Regulation) Compliance (CARB), and that Contractor shall comply with these requirements.

I further certify that each of the Contractor's listed subcontractors is familiar with these requirements and shall also comply.

CONTRACTOR CERTIFICATION

PRODUCT ENDORSEMENT

I declare under penalty of perjury that I acknowledge and agree to comply with the provisions of City of San Diego Administrative Regulation 95.65, concerning product endorsement. Any advertisement identifying or referring to the City as the user of a product or service requires the prior written approval of the City.

AFFIDAVIT OF DISPOSAL

(To be submitted upon completion of Construction pursuant to the contracts Certificate of Completion)

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

AIR & SPACE MUSEUM ROOF REPLACEMENT

(Project Title)

as particularly described in said contract and identified as Bid No. **K-26-2396-DBB-3-A**; SAP No. (WBS) **B-20116**; 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

JOBS COORDINATOR DESIGNATION FORM

JOBS COORDINATOR. A Jobs Coordinator is an independent third-party individual, entity or employee with whom the Prime Contractor contracts with or employs to assist with: achieving and exceeding the Local Worker goals set forth in the PLA, Article 4, Section 4.5; fulfilling the Work Opportunities Program as set forth in Article 22; and Helmets to Hardhats participation as set forth in Article 23. Each subcontractor, regardless of tier, shall utilize the Jobs Coordinator retained by the Prime Contractor pursuant to the PLA, Article 22 Section 22.2 (f). The Prime Contractor must submit a Jobs Coordinator Designation Form prior to award of a Covered Project or each time it is assigned a Task Order that is considered a Covered Project.

List the applicable Jobs Coordinator information below.

Legal Name and Full Street Address of Jobs Coordinator Firm (or list Prime Contractor if self-performing)	Name of Individual Acting as Jobs Coordinator	Phone number of Jobs Coordinator	Email address of Jobs Coordinator

Bidder Signature: _____

Dated: _____

JOBS COORDINATOR QUALIFICATIONS. Jobs Coordinator qualifications may include, but are not limited to, the following:

- A. 3 years' experience providing Jobs Coordinator services.
- B. Possess working relationships with the San Diego Building and Construction Trades Council, Veteran Worker organizations, and signatory craft councils and unions operating within the County of San Diego by describing previous interactions, relationships, and partnerships with these parties/groups.
- C. Demonstrate experience with Targeted and/or Veteran Worker populations.
- D. Experience working with services of the Center for Military Recruitment, Assessment and Veterans Employment and "Helmets to Hardhats" programs.

JOBS COORDINATOR RESPONSIBILITIES. The Prime Contractor may require the selected Jobs Coordinator to perform a list of duties that include, but are not limited to, the following:

- A. Develop, create, design, and market specific programs to attract Local, Targeted and/or Veteran Workers for construction opportunities (e.g. handouts and fliers for "walk-ins" demonstrating program entrance procedures).
- B. Coordinate services for contractors to use in the recruitment of Local, Targeted and/or Veteran Workers.
- C. Conduct orientations, job fairs, and community outreach meetings in the local community.
- D. Distribute the City of San Diego Targeted Worker Survey Form.
 - a. Screen Targeted and/or Veteran Workers status.
- E. Establish a referral and retention tracking mechanism for placed Local, Targeted and/or Veteran Workers and apprentices.
- F. Network with the various work source centers, community organizations, and other non-profit entities that provide qualified Local, Targeted, and/or Veteran Workers.
- G. Coordinate with the various building trades crafts for referral and placement of Local, Targeted, and/or Veteran Workers.
- H. Maintain a database of pre-qualified Targeted and/or Veteran Workers for referral.
- I. Be the point of contact to provide information about available job opportunities on projects.
- J. Assist all subcontractors, regardless of tier, with their documentation efforts and other reports as it relates to their Local, Targeted and/or Veteran Worker hiring goals.
- K. Work closely with the City, the building trades, and all contractors in achieving and/or exceeding the Local Worker goal and voluntary Targeted Worker participation.

JOBS COORDINATOR DELIVERABLES. The Prime Contractor may require the selected Jobs Coordinator to provide, on a monthly basis, an update of Jobs Coordinator activities via email, including but not limited to:

- A. Number of Local, Targeted and/or Veteran Worker placements made.
- B. Contractor availability for sponsoring new Local, Targeted and/or Veteran Workers.
- C. Spotlight photos and interviews with Local, Targeted and/or Veteran Workers.
- D. Activities that have been completed to achieve the Local Worker goal and voluntary Targeted Worker participation.
- E. Identification of any workers who meet the Local, Targeted and/or Veteran status that are available for placement.

JOBS COORDINATOR DESIGNATION FORM

Revised March 2025

ELECTRONICALLY SUBMITTED FORMS

FAILURE TO FULLY COMPLETE AND SUBMIT ANY OF THE FOLLOWING FORMS WILL DEEM YOUR BID NON-RESPONSIVE.

PLANETBIDS WILL NOT ALLOW FOR BID SUBMISSIONS WITHOUT THE ATTACHMENT OF THESE FORMS

The following forms are to be completed by the bidder and submitted (uploaded) electronically with the bid in PlanetBids.

- A. BID BOND – See Instructions to Bidders, Bidders Guarantee of Good Faith (Bid Security) for further instructions**
- B. CONTRACTOR’S CERTIFICATION OF PENDING ACTIONS**
- C. MANDATORY DISCLOSURE OF BUSINESS INTERESTS FORM**
- D. DEBARMENT AND SUSPENSION CERTIFICATION FOR PRIME CONTRACTOR**
- E. DEBARMENT AND SUSPENSION CERTIFICATION FOR SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS**

BID BOND

**See Instructions to Bidders, Bidder Guarantee of Good Faith
(Bid Security)**

KNOW ALL MEN BY THESE PRESENTS,

That Solpac Construction, Inc. dba Soltek Pacific Construction Company as Principal, and Liberty Mutual 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

AIR & SPACE MUSEUM ROOF REPLACEMENT

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 20th day of January, 2026

Solpac Construction, Inc. dba Soltek Pacific Construction Company (SEAL)

Liberty Mutual Insurance Company(SEAL)

(Principal)

(Surety)

By: _____

By: _____

(Signature)

(Signature)

Brandon M. Richie, Chief Executive Officer Lawrence F. McMahon, Attorney-in-Fact
(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

CALIFORNIA CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)

County of SAN DIEGO)

On FEBRUARY 23, 2026 before me, ANGELINA S. ADAPON,
(here insert name and title of the officer)

personally appeared BRANDON M. RICHIE, CEO

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.

[Handwritten Signature]

Signature _____



(Seal)

Optional Information

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of BID BOND - AIRTS PACE MUSEUM ROOF REPLACEMENT containing 1 pages, and dated 1/20/2026.

The signer(s) capacity or authority is/are as:

- Individual(s)
- Attorney-in-Fact
- Corporate Officer(s) CEO
BRANDON M. RICHIE

- Guardian/Conservator
- Partner - Limited/General
- Trustee(s)
- Other: _____

representing: _____
Name(s) of Person(s) or Entity(ies) Signer is Representing

Additional Information
Method of Signer Identification Proved to me on the basis of satisfactory evidence: <input type="radio"/> form(s) of identification <input type="radio"/> credible witness(es) Notarial event is detailed in notary journal on: Page # _____ Entry # _____ Notary contact: _____ Other <input type="checkbox"/> Additional Signer(s) <input type="checkbox"/> Signer(s) Thumbprint(s) <input type="checkbox"/> _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT Civil Code § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy or validity of that document.

STATE OF CALIFORNIA

County of San Diego

On 1/20/2026 before me, Sarah Myers, Notary Public,
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Lawrence F. McMahon

Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~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

Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of the form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer is Representing:
Surety Company

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer is Representing:



POWER OF ATTORNEY

Certificate No: **8213991 - 024019**

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Christopher Conte, Dale G. Harshaw, Geoffrey Shelton, John R. Qualin, Lawrence F. McMahon, Lilia De Loera, Maria Hallmark, Minna Huovila, Natassia Kirk-Smith, Ryan Warnock, Sarah Myers, Tara Bacon

all of the city of San Diego state of CA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 6th day of May, 2025.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: Nathan J. Zangerle
Nathan J. Zangerle, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 6th day of May, 2025 before me personally appeared Nathan J. Zangerle, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2029
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes Nathan J. Zangerle, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 20th day of January, 2026.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

CONTRACTOR'S 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.

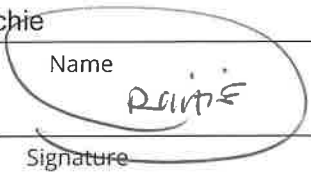
CHECK ONE BOX ONLY.

- 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: SOLPAC CONSTRUCTION INC dba SOLTEK PACIFIC CONSTRUCTION COMPANY

Certified By Brandon M. Richie Title Chief Executive Officer
Name

Signature Date 2/20/25

USE ADDITIONAL FORMS AS NECESSARY

Mandatory Disclosure of Business Interests Form

BIDDER/PROPOSER INFORMATION

Legal Name		DBA	
SOLPAC CONSTRUCTION INC		SOLTEK PACIFIC CONSTRUCTION COMPANY	
Street Address	City	State	Zip
2424 CONGRESS ST	SAN DIEGO	CALIFORNIA	92110
Contact Person, Title		Phone	Fax
Kevin M. Cammall-Vice President Business Development / Corporate Secretary		(619) 296-6247	(619) 296-4314

Provide the name, identity, and precise nature of the interest* of all persons who are directly or indirectly involved** in this proposed transaction (SDMC § 21.0103).

* The precise nature of the interest includes:

- the percentage ownership interest in a party to the transaction,
- the percentage ownership interest in any firm, corporation, or partnership that will receive funds from the transaction, the value of any financial interest in the transaction,
- any contingent interest in the transaction and the value of such interest should the contingency be satisfied, and any philanthropic, scientific, artistic, or property interest in the transaction.

** Directly or indirectly involved means pursuing the transaction by:

- communicating or negotiating with City officers or employees,
- submitting or preparing applications, bids, proposals or other documents for purposes of contracting with the City, or directing or supervising the actions of persons engaged in the above activity.

Name	Title/Position
Brandon M. Richie	Chief Executive Officer/Chairman
City and State of Residence	Employer (if different than Bidder/Proposer)
San Diego, CA	Same as Bidder
Interest in the transaction	
26.25% ownership interest in the Bidder. Responsible for executive oversight and authorization of the proposed contract.	

Name	Title/Position
Matthew L. Caronna	President / Chief Financial Officer
City and State of Residence	Employer (if different than Bidder/Proposer)
San Diego, CA	Same as Bidder
Interest in the transaction	
22.06% ownership interest in the Bidder. Responsible for financial oversight and contract execution.	

* Use Additional Pages if Necessary *

Under penalty of perjury under the laws of the State of California, I certify that I am responsible for the completeness and accuracy of the responses contained herein, and that all information provided is true, full and complete to the best of my knowledge and belief. I agree to provide written notice to the Mayor or Designee within five (5) business days if, at any time, I learn that any portion of this Mandatory Disclosure of Business Interests Form requires an updated response. Failure to timely provide the Mayor or Designee with written notice is grounds for Contract termination.

Brandon M. Richie, Chief Executive Officer

BRICIE

2/20/20

Print Name, Title

Signature

Date

Failure to sign and submit this form with the bid/proposal shall make the bid/proposal non-responsive. In the case of an informal solicitation, the contract will not be awarded unless a signed and completed Mandatory Disclosure of Business Interests Form is submitted.

**DEBARMENT AND SUSPENSION CERTIFICATION
PRIME CONTRACTOR
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

EFFECT OF DEBARMENT OR SUSPENSION
To promote integrity in the City's contracting processes and to protect the public interest, the City shall only enter into contracts with responsible- bidders and contractors. In accordance with San Diego Municipal Code §22.0814 (a): <i>Bidders and contractors</i> who have been <i>debarred or suspended</i> are excluded from submitting bids, submitting responses to requests for proposal or qualifications, receiving <i>contract awards</i> , executing <i>contracts</i> , participating as a <i>subcontractor</i> , employee, agent or representative of another <i>person</i> contracting with the City.

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 Names of the Principal Individual owner(s).

The names of all persons interested in the foregoing proposal as Principals are as follows:

NAME	TITLE
Brandon M. Richie	Chief Executive Officer
Matthew L. Caronna	President / Chief Financial Officer
Derek Good	Executive Vice President, Operations
Kevin M. Cammall	Vice President Business Development / Corporate Secretary

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.

The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any person associated therewith in the capacity of owner, partner, director, officer, manager:

- Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal, State or local agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal, State or local agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

NONE

Exceptions will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Contractor Name: SOLPAC CONSTRUCTION INC dba SOLTEK PACIFIC CONSTRUCTION COMPANY

Certified By Brandon M. Richie Title Chief Executive Officer



Name _____ Date 2/20/20

Signature _____

NOTE: Providing false information may result in criminal prosecution or administrative sanctions.

**DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
TO BE COMPLETED BY BIDDER
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Larry R Martin II	Partner
Helen Martin	Partner

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: ACCI Roofing Services

Certified By Larry R Martin III Title COO

Name
Digitally signed by Larry Rex Martin III
 DN: C=US, E=LarryJr@acciroofing.com, O=ACCI
 Roofing Services, CN=Larry Rex Martin III
 Date: 2026.03.03 13:34:17-08'00'
Larry Rex Martin III Date 3/3/2026

Signature

USE ADDITIONAL FORMS AS NECESSARY*

**DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
TO BE COMPLETED BY BIDDER
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Yehuda Chakoff *	CEO
Randy Rehovich *	CFO Secretary
Aaron Melton *	VP of Administration Asst. Secretary

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: American Scaffold, LLC

Certified By Aaron Melton Title VP of Administration | Asst. Secretary

Name



Signature

Date 03/03/2026

USE ADDITIONAL FORMS AS NECESSARY*

* American Scaffold, LLC is a wholly owned subsidiary of IMIA, LLC - who in turn is a wholly owned subsidiary of Armada Parent, Inc. There are no non-corporate Principal individual owners, as defined by the Corporate Transparency Act (CTA). The individuals listed serve as officers for American Scaffold, LLC and as officers of the Managing Member entities.

**DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
TO BE COMPLETED BY BIDDER
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal Individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please Indicate If principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Austin Viramontes	President
Lance Cleveland	Secretary & Treasurer
Richard Cleveland	Vice President
Marvin Henderson	Vice President

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Bayview Environmental Services, Inc.

Certified By Austin Viramontes Title President

Name



Date 3/3/2026

Signature

USE ADDITIONAL FORMS AS NECESSARY*

**DEBARMENT AND SUSPENSION CERTIFICATION
 SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
 TO BE COMPLETED BY BIDDER
 FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of subcontractor, supplier, and/or manufacturer:

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
ANTHONY BUESCHER	PRESIDENT BUESCHER ELECTRIC

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: BUESCHER ELECTRIC INC

Certified By ANTHONY BUESCHER Title PRESIDENT

 Name Date 3/3/2026

Signature

*USE ADDITIONAL FORMS AS NECESSARY**

**DEBARMENT AND SUSPENSION CERTIFICATION
 SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
 TO BE COMPLETED BY BIDDER
 FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please Indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
David Canin	CEO/Founder

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Canin Coatings Inc.

Certified By David Canin Title President

Name



Signature

Date 3/2/26

USE ADDITIONAL FORMS AS NECESSARY*

**DEBARMENT AND SUSPENSION CERTIFICATION
 SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
 TO BE COMPLETED BY BIDDER
 FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Colson Plumbing	Owner
18023 Calle Ambiente #301	
Rancho Santa Fe, CA 92067	

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Colson Plumbing.

Certified By _____ Title President

Name
Shan Colson
 Signature

Date 3-3-26

USE ADDITIONAL FORMS AS NECESSARY*

**DEBARMENT AND SUSPENSION CERTIFICATION
 SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
 TO BE COMPLETED BY BIDDER
 FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Billy Taylor	President
Dennis Stainbrook	Secretary
Richard Parra	Treasurer

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Ehmcke Sheet Metal Corp.

Certified By Brian W. Owen Title Senior Estimator

Name



Date January 21, 2026

Signature

USE ADDITIONAL FORMS AS NECESSARY*

**DEBARMENT AND SUSPENSION CERTIFICATION
 SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
 TO BE COMPLETED BY BIDDER
 FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal Individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer**:

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Britton Powell	President/Secretary/Treasurer / CEO

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Helix Mechanical, Inc

Certified By Wendie Baker Title Office Manager

Name
Wendie S. Baker Date 03/03/2026
 Signature

USE ADDITIONAL FORMS AS NECESSARY*

**DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
TO BE COMPLETED BY BIDDER
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal Individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Don Trenholm	President
Troy Parry	Secretary

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Dak Hollow Restoration, Inc.

Certified By Troy Parry Name Title Owner

[Signature] Date 3/2/26

Signature

*USE ADDITIONAL FORMS AS NECESSARY**

**DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
TO BE COMPLETED BY BIDDER
FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE**

Names of the Principal individual owner(s)

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 Names of the Principal Individual owner(s) for their subcontractor/supplier/manufacturers.

Please indicate if principal owner is serving in the capacity of **subcontractor, supplier, and/or manufacturer:**

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Harley Perry	President / 50% Owner

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Veronlca Perry	Vice- President / 50% Owner

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: V & H Perry, Inc. dba Perry Plumbing & Pipelining

Certified By Andrea Perry Title Director of Administrative Operations

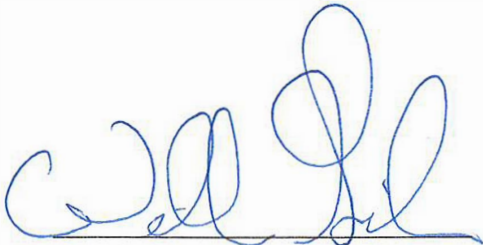

 Name
 Signature

Date 02/24/2026

USE ADDITIONAL FORMS AS NECESSARY*

ENGINEER OF WORK

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

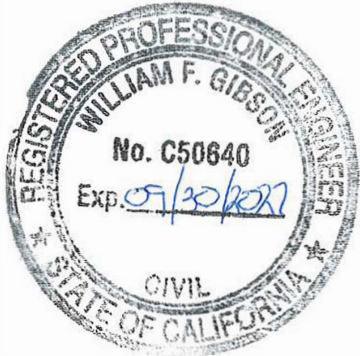


For City Engineer

12/18/2025

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.

B. BIDDER’S QUESTIONS

Q1. Spec section 7-3.1 Measurement and Payment item numbers do not match the Line Items on the Bid Form. The Measurement and Payment section is missing several of the Line Items. Please update the Measurement and Payment section to match the Line Item list and provide the text for the missing line items.

A1. The Supplementary Special Provisions (SSP) is complete as shown in the Bidding Documents. Specification Section 7-3.1 - Measurement and Payment is not missing information, but rather not every single line item is in reference to the SSP; all of the line items which reference 7-3.1 do refer to the SSP, but the remaining line items refer to either the GREENBOOK or the WHITEBOOK reference documents.

For a list of the corresponding reference document for each line item *not* referenced in the SSP, see **Section C, Item 1**, page 3 of this Addendum.

For updated line item numbering resulting from the changes shown in **Section D, Item 1**, page 5 of this Addendum, see the updated Line Items tab in PlanetBids.

C. CLARIFICATIONS

1.	<u>ITEM DESCRIPTION</u>	<u>REFERENCE</u>
1	Bonds (Payment and Performance)	WHITEBOOK
18	All Roof Drain Piping Within Building; Snaked, Mechanically Cleaned, CCTV Inspected	GREENBOOK
19	50% of Roof Drain Piping; Hydro-jetted	GREENBOOK
20	All Roof Drain Piping Within Building; Re-lined (Cured-in-place)	GREENBOOK

21	All Concrete Drainage Pipes Below Grade; Mechanically Cleaned, CCTV Inspected, Hyrdo-jetted	GREENBOOK
22	Collapsed Concrete Drainage Pipes Below Grade; Remove and Replace (With Up To Five Point Repairs)	GREENBOOK
23	All Concrete Drainage Pipes Below Grade; Re-lined (Cured-in-place)	GREENBOOK
32	Mobilization	WHITEBOOK
34	Minor WPCP Development and Implementation	WHITEBOOK
35	Hazardous Waste Operations and Emergency Response (HAZWOPER) Certification (EOC Type I)	WHITEBOOK

D. ADDITIONAL CHANGES

- The following are additional changes to the Line Items in the PlanetBids Tab:

For clarity where applicable, **ADDITIONS**, if any, have been Underlined and **DELETIONS**, if any, have been ~~Stricken out.~~

Section	Item Code	Description	UoM	Quantity	Payment Reference
Main Bid	238140	Main Building: Slurry Coat Repair of Plaster Cracks (30% of stucco of Main Building Excluding the Interior Rotunda and Museum Exhibition Spaces, and Excluding Areas Specifically Called Out for Repairs in Plans) <u>Main Building: Slurry Coat Repair of Plaster Cracks (30% of Stucco of Main Building)</u>	SF	5674	7-3.1
Main Bid	238140	Rotunda: Slurry Coat Repair of Plaster Cracks (100% of Stucco of Rotunda Excluding the interior Rotunda and Museum Exhibition Spaces, and Excluding Areas Specifically Called Out for Repairs in Plans) <u>Rotunda: Slurry Coat Repair of Plaster Cracks (100% of Stucco of Rotunda)</u>	LS	1	7-3.1
Main Bid	237310	Minor WPCP Development	LS	1	1001-5.1
Main Bid	237310	Minor WPCP Implementation	LS	1	1000-5.1

Section	Item Code	Description	UoM	Quantity	Payment Reference
<u>Main Bid</u>	<u>237310</u>	<u>Minor WPCP Development and Implementation</u>	<u>LS</u>	<u>1</u>	<u>1000-5.1</u>

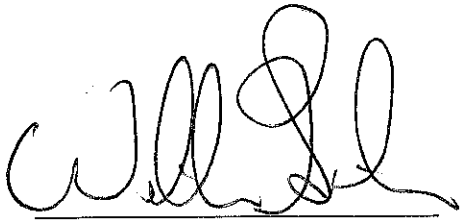
Elif E. Cetin, Director
Engineering & Capital Projects Department

Dated: *December 30, 2025*
San Diego, California

EEC/AJ/yk

ENGINEER OF WORK

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

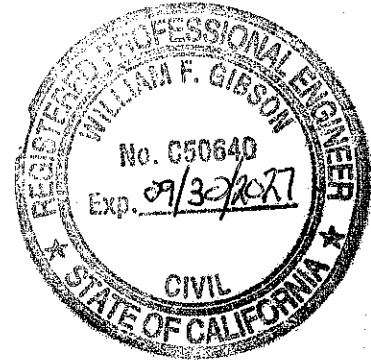


For City Engineer

01/21/2026

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. NOTICE INVITING BIDS

1. To **ESTIMATED CONSTRUCTION COST, page 6, DELETE** in its entirety and **SUBSTITUTE** with the following:

3. ESTIMATED CONSTRUCTION COST: The City's estimated construction cost for this project is **\$8,000,000.00.**

C. ADDITIONAL CHANGES

1. The following are additional changes to the Line Items in the PlanetBids Tab:

For clarity where applicable, **ADDITIONS**, if any, have been **Underlined** and **DELETIONS**, if any, have been ~~Stricken out.~~

Section	Item Code	Description	UoM	Quantity	Payment Reference	Extension
Main Bid		Field Orders (EOC Type II)	AL	1	7-3.9	250,000 <u>750,000</u>

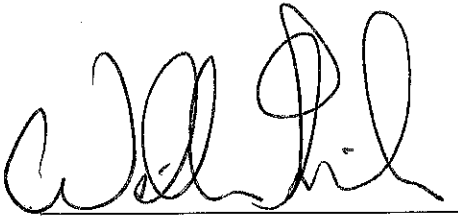
Elif E. Cetin, Director
Engineering & Capital Projects Department

Dated: *January 22, 2026*
San Diego, California

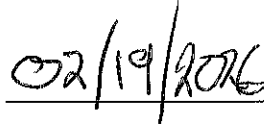
EEC/AJ/yk

ENGINEER OF WORK

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

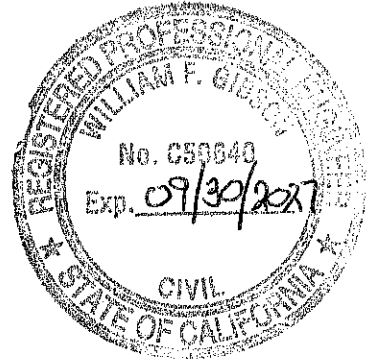


For City Engineer



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.

B. BIDDER'S QUESTIONS

Q1. Please clarify whether a temporary air handling unit will be required during construction due to the planned disconnection of the rooftop Air Handling Unit. Specifically, are we to provide a rental AHU and temporary flexible ductwork to maintain conditioned air for the duration of the work? Please advise on the intent and any performance requirements.

A1. Reference bidding documents, including but not limited to, General Note 17 on Sheet G002 and Interruption of Services and Demolition Notes on Sheet P001.

Q2. The bid documents do not appear to indicate whether the San Diego Air & Space Museum is required to remain open and operational during construction. Please confirm whether the Museum is required to remain open to the public throughout construction, or if temporary closures (full or partial) are anticipated or permitted during the work.

A2. The Museum is to remain operational during construction. Reference bidding documents including General Notes on G002.

Q3. The bid documents do not appear to define specific hours of work, weekend work allowances, or restrictions related to work hours at the San Diego Air & Space Museum site.

Please confirm the following:

Standard allowable work hours (weekday start/stop times).

Whether weekend work is permitted.

Any anticipated restrictions related to museum operations, Balboa Park usage, noise, or public access that may limit work hours.

- A3. Reference bidding documents including Attachment E, Supplementary Special Provisions, Section 1-2.
- Q4. Please clarify what items of section 5-10.2.1 "Public Notice by Contractor" will need to be implemented as there are no houses or streets for door hangers, etc.
- A4. "Public Notice by Contractor" needs to be distributed to all businesses, museums and users within the impacted radius.
- Q5. Aside from the laydown area, will the City be charging a parking fee for all the construction workers or will there be ample free parking the workers on this project?
- A5. See revised Sheet A001 for revised location of Laydown Area, included in this Addendum.

The fire lane, ADA parking stalls and fire hydrant shall remain in-use and accessible during construction. The very south parking stalls south of the museum (pictured above) can be used for staging / laydown area and construction workers vehicles parking. Reasonable additional parking may be considered in consideration of contractor activities and park events. Prior to the Pre-Construction meeting, the General Contractor should submit a proposed additional parking plan and schedule to the City for review and approval.

- Q6. Addendum A, section C Notes the awarded contractor will need to perform various Jetting, CCTV, re-line existing piping, mechanically cleaned etc. However, there is nothing shown on the plans. Please advise on the below and provide locations, sizing, lengths, depths, details as needed, etc.

- 18 All Roof Drain Piping Within Building; Snaked, Mechanically Cleaned, CCTV Inspected
- 19 50% of Roof Drain Piping; Hydro-jetted
- 20 All Roof Drain Piping Within Building; Re-lined (Cured-in-place)
- 21 All Concrete Drainage Pipes Below Grade; Mechanically Cleaned, CCTV Inspected, Hydro-jetted
- 22 Collapsed Concrete Drainage Pipes Below Grade; Remove and Replace (With Up To Five Point Repairs)

23 All Concrete Drainage Pipes Below Grade; Re-lined (Cured-in-place)

- A6. In addition to Plans and Specs, for existing roof drain piping and site drainage, reference Appendix J - As-Built, including but not limited to the Basement Plan sheets and Roof Plan sheet.

On General Notes 3 and 4, delete references to hydro-jetting/hydro-jetted, and replace with root-cutting/root-cut. See revised Sheet A101 included in this Addendum.

On General Note 4, add "Assume additional root-cutting shall be required for 50% of drainage pipes." See revised Sheet A101 included in this Addendum.

Reference edit to Bid Item 19 and Bid Item 21 to reflect root-cutting clarification above. For clarification, Bid Item 22, assume five point repairs of up to 100 linear feet as noted on sheet A101, General Note 4. Contractor to be reimbursed on a per linear foot basis, per GREENBOOK.

- Q7. How do we identify the amount of piping, above and below ground, to be inspected, jet and lined?
- A7. See response to Q6.
- Q8. Will the new roof drain piping need to be lined?
- A8. Yes. Per GREENBOOK.
- Q9. Roof drain piping is calling for a Trap and Vent. Normal roof drains that go to the storm drain system do not require Traps or Vents. Without a constant source of water for the Trap, it will dry out and be a place for debris to collect. Please clarify the intent for a Trap and a Vent on Roof Drains.
- A9. Detail 1/P500 refers to roof receptors (DR-1), Not roof drains. See keynotes D1, D2/P100 and P1, P2/P101. Roof receptors should be connected to sewer system, trapped and vented. These will collect condensate water from mechanical equipment so the trap will not dry out.
- Q10. Please clarify if Roof Drains need a Trap and a Vent.
- A10. See response to Q9.

- Q11. Details on P500 call for 1" min insulation on the roof drain piping. Please clarify the purpose of insulating traps and roof drain lines.
- A11. Condensate from mechanical equipment can also create condensation on sewer pipes close to the receptor. Insulation is required to be provided to the first 10 ft of pipe to prevent condensation on these pipes.
- Q12. Please clarify if insulation is required on roof drain and traps.
- A12. See response to Q11.
- Q13. On the Bid Schedule, item #2 is "Roof Demo", Item # 28 is "Hazardous Material Abatement". The roofing is what's abated. Please clarify what you want in each line item.
- A13. Bid Item 28, Hazardous material abatement, shall include the abatement of all exterior cladding and roofing materials requiring hazardous material abatement as specified in the Plans, Technical Specifications, and Contract Documents. Bid Item 2, Roof Demo, shall include the balance of the roof for full and complete demolition as necessary to complete the work as indicated in the Plans, Technical Specifications, and Contract Documents.
- Q14. Item #18 is All roof drain piping snaked, cleaned CCTV inspected. Item #19 is 50% of pipe to get Hydro-Jetted. Item #20 is All roof drain piping Re-lined. The pipe re-lining includes the cleaning, and inspecting. This is not a separately priced process. Please make this a single line item for Pipe re-lining or please clarify you want all the pipe cleaned but only ½ of it Hydro-jetted.
- A14. See response to Q6.
- Q15. Item #21 All concrete drainage pipes below grade to be cleaned, inspected, hydro-jetted. Item #22 Collapsed drainage pipes, remove with up to five-point repairs. Please clarify what is five-point repairs.
- A15. See response to Q6.
- Q16. Item #23 all Concrete drainage pipes below grade Re-lined. Please clarify do the new replacement concrete pipes get re-lined.
- A16. See response to Q6.

Q17. Sheet A101, Keynote 2 calls for a “fully adhered 60-mil KEE FB single ply roofing system with cover boards.” However, Section 07 54 16 specifies Tremco TremPly KEE Single Ply Roof Membrane (or approved equal) without indicating fleece backing.

Please confirm whether the Tremco TremPly KEE membrane is required with or without fleece backing.

A17. Fleece backing required per details.

Q18. No standalone low-voltage systems appear to be included in the project scope (e.g., communications, data, security, fire alarm modifications, access control, AV, or building controls).

Please confirm that the project does not include any new or modified low-voltage scope beyond incidental wiring required for the specified lighting replacements.

A18. Correct.

Q19. The asbestos report indicates approximately 100,000 SF of roof (two layers). Please clarify how this quantity was calculated. Our internal takeoffs show the donut-shaped roof area to be replaced is approximately 58,000 SF. Please confirm if additional areas are included or if the reported SF should be revised.

A19. See response to Q13.

Q20. Will the pitch pockets and the attached anchors for the inner wall be demolished or just roofed in using the fluid applied assembly? Please see picture below.



- A20. No pitch pockets to remain at fully replaced roofing areas. At tower roof to be recoated, pitch pockets are removed at posts per keynote 10 on A100. Kicker pitch pockets are to remain. Build per Plans and Specs, including Details 4, 8 and 9 on A503.
- Q21. There appears to be ponding on the inner parapet wall, is there an expectation to add crickets, and if so what material would they be made out of? Please see picture below.



- A21. If this condition occurs at the main roof, with full roof replacement, use rigid insulation/sloped rigid insulation as required to prevent ponding. At high tower roof to be recoated: During pre-design walks with basis of design roofing manufacturer, they confirmed that roofing could be recoated and obtain full warranty. (See Specifications and Details for repair, prep and priming information). If ponding continues after prepping the roof for re-coating, notify the City. The City will evaluate existing ponding considering the recommendations of the original roofing manufacturer warranty limitations (48 hours).
- Q22. On the upper rotunda there is ponding, is there an expectation to add material to push water to the drains? If so, what material would they be made out of? Please see picture below.



A22. Intent is limited to re-coating necessary to maintain warranty. It does not appear that there is infiltration at localized ponding area and ponding does not appear to be exceeding 48 hours. Contractor to verify at time of construction.

Q23. There are items on the roof that look to be abandoned, or not connected to any source. Please clarify which items are to be removed and not reattached to the roof.

A23. Abandoned openings are noted for infill, per Plans and Specs.

Q24. It has been observed that the primary staff entrance is located adjacent to the parking lot at the rear of the building on the basement level.

Please confirm whether this entrance is required to remain operational for Museum staff for the full duration of construction. If so, kindly advise on any specific access, safety, or coordination requirements that should be considered during the work.

A24. For the entire construction duration, all museum entrances should remain operational for their designated uses. The General Contractor shall provide a safety plan prior to the start of construction.

Q25. It has been observed that the designated Fire Lane is located adjacent to the parking lot.

Please confirm whether access to this Fire Lane must be maintained throughout the duration of construction. If access is required, kindly provide any specific requirements or restrictions that should be incorporated into the construction sequencing and site logistics plan.

A25. See response to Q5.

Q26. The bid documents do not appear to identify construction parking locations or parking arrangements for contractor or subcontractor personnel.

Please confirm whether any designated construction parking areas will be provided for this project and, if so, identify the location(s) and any applicable restrictions.

A26. See responses to Q5.

Q27. During construction, are the ADA parking spaces located adjacent to the parking lot at the rear of the building on the basement level required to remain accessible?

A27. Yes, the ADA parking spaces located adjacent to the parking lot at the rear of the building on the basement level are required to remain accessible.

Q28. Who is responsible for replacing any mechanical duct/pipe supports?

1. Note D2 M101 states to provide replacement supports per 10/A500. This detail references existing supports, nothing new.
2. Note D7 M101 states to provide replacement supports per 7/A500. This shows a durablock-style support.

A28. The Contractor is responsible for replacing any mechanical duct/pipe supports.

1. When additional supports are needed, they should be replaced in kind with existing supports. Provide the additional, non-existing, items called out in Detail 10/A500.

2. These supports are to be Durablock-style.
- Q29. For anything that is shown to be removed and reinstalled, is storing on the roof acceptable?
- A29. Construction means, methods, techniques, sequences, and procedures are the sole responsibility of the Contractor.
- Q30. A101 General note 3 & 4 rely on existing drawings that are tough to read as they appear to be from 1935 & 1948. May we get the linear footage of pipe to base our bid on?
- A30. See response to Q6.
- Q31. Will the existing structure be insured by another policy during the renovation?
- A31. The City carries insurance on all owned buildings. Coverage is not cancelled during renovations. The Contractor is responsible for providing the required insurance coverage as stated in the solicitation documents. Please refer to Attachment E, Supplementary Special Provisions, section 5-4, for specific insurance requirements.
- Q32. What is the anticipated construction timeline?
- A32. Reference the term of the Contract in the bidding documents, Attachment A. Contractor should notify the City if there is a conflict due to material sourcing and lead times.
- Q33. Where is the allowable laydown area?
- A33. See response to Q5.
- Q34. Regarding the existing rooftop HVAC equipment, please confirm whether the roof structure can support the existing HVAC equipment at any location on the existing aluminum-coated BUR roofing system.
- A34. See response to Q29.
- Q35. The drawing set, as well as Appendix I and Appendix J (As-Builts and Historical Drawings), do not provide sufficient information for the plumbing subcontractors to clearly understand the full scope of work for this project. Please provide additional drawings, documentation, or

direction on where the required piping information can be located in order to produce an accurate bid.

A35. See response to Q6.

Q36. It has been brought to our attention that the pipelining work may be performed by non-union labor only. Please confirm whether the City is aware of this and provide direction on how you would like us to proceed.

A36. Refer to PLA Section 4.9 Union Membership. Employees are not required to become or remain Union members or pay Union dues or fees as a condition of performing Covered Work under this PLA. Nothing in this Section 4.9 is intended to supersede independent requirements of the applicable Master Agreements as to those Contractors otherwise signatory to such Master Agreements and as to the employees of those Contractors who are performing work on Covered Projects. Contractors otherwise signatory to such Master Agreements shall make and transmit all deductions for Union dues, fees, and assessments that have been authorized by employees in writing in accordance with the applicable Master Agreement.

Q37. There are details that talk about "IF" there is damage beyond repair to replace. Example is detail 1/A500 that states if the curb is not 5-1/2" tall to replace it, IF any wood under the curbs are rotted, replace in kind. These are unforeseen conditions and we can not bid an "IF". These items must be covered with an allowance so everyone is bidding the same work.

A37. Clarifying only method of repair and that if repairs are required, they will be handled as unforeseen condition. A Field Orders allowance is provided in the bid schedule. This allowance shall only be for items that are truly unforeseen until demolition occurs (i.e. If a bidder can measure how tall a curb is in the field prior to bid, it is not an unforeseen condition and it should be verified prior to bid).

Q38. Please provide an allowance for all Unforeseen conditions.

A38. Reference Field Orders allowance.

Q39. The bid schedule, line item 29 is for a 20' tall ladder and item #30 is for

a 64' tall ladder. The spec calls for a type 501 ladder and a type 504 ladder. We don't know which ladder is the model 501 and which is the model 504. There is a detail for the ladders (9/A504) but no elevations for the ladder that goes from the second floor closet to the main roof area. The detail on A504 shows 3 ladders none of which match the line items of a 20' or 64' ladder.

Please provide an elevation with dimensions for each ladder at each location.

Please provide the model numbers for each ladder at each location.

A39. Dimensions are approximate, and Contractor shall field verify. Per Details 7 and 9/A504, Contractors are to verify field conditions prior to bid. See also Technical Specifications Section 05 51 33 – Metal Ladders, including subsection 1.7.A. If after pre-bid field visit it is determined that no flare will be required, then the model 501 ladder will be used. If a flare is required, then ladder will be the 504 model.

Q40. The Technical Specifications include Section 09 96 00 – High-Performance Coatings; however, the bid documents do not appear to clearly identify the specific building elements or locations where this coating system is required.

Per a phone conversation with John Dumesnil, the local Sherwin-Williams representative referenced in the specifications, it was indicated that the high-performance coating system is intended to be applied to the blue sheet metal fins, columns, and any handrailing. Please confirm this is correct.

A40. See Plans and Specs, including but not limited to General Notes on elevations sheets (Note #5 on A202 and A203).

Q41. Detail 9/A504 references Details 13 and 8/A24 for information related to the existing roof ladder. However, Sheet A24 was not provided as part of the current bid drawing set or the available as-built drawing sets. Please provide Sheet A24, or the applicable drawing(s) containing the referenced roof ladder details, to allow the new roof ladder scope to be bid accurately.

A41. Detail 9/A504 is the As-built detail showing the existing ladder system to be removed and replaced. The notes that are in human handwriting are from the As-built set. The added computer block notes describe work to be performed.

Q42. The Architectural drawings reference two (2) new roof ladders, with ladder design and detailing directed to Sheet A24. Sheet A24 was not included in the bid document drawing set or as-built drawings provided.

Subcontractors currently do not have enough information regarding new ladder design. Please provide Sheet A24 or equivalent details indicating ladder type, material, dimensions, attachment requirements, and any fall protection requirements so the roof ladders can be accurately bid.

A42. See response to Q39.

C. ADDENDUM

To **ADDENDUM A**, page 5 of 6, Section **D. ADDITIONAL CHANGES**, item 1., "TABLE", "Main Bid, 238140, Main Building: Slurry Coat Repair of Plaster Cracks (30% of Stucco of Main Building, SF, 5674, 7-3.1", **DELETE** in its entirety. See Section **D. ADDITIONAL CHANGES** of this Addendum.

D. ADDITIONAL CHANGES

1. The following are additional changes to the Line Items in the PlanetBids Tab:

For clarity where applicable, **ADDITIONS**, if any, have been Underlined and **DELETIONS**, if any, have been ~~Stricken out.~~

Section	Item Code	Description	UoM	Quantity	Payment Reference
Main Bid	238140	Main Building: Slurry Coat Repair of Plaster Cracks (30% of Stucco of Main Building)	SF	5674 17000	7-3.1

Section	Item Code	Description	UoM	Quantity	Payment Reference
Main Bid	238220	50% of roof drain piping; hydro-jetted <u>50% of Roof Drain Piping; Hydro-cut</u>	LS	1	500-3
Main Bid	238220	All concrete drainage pipes below grade; mechanically cleaned, CCTV inspected, hydro-jetted <u>All Concrete Drainage Pipes Below Grade; Mechanically Cleaned, CCTV Inspected, Hydro-cut</u>	LS	1	500-3

E. PLANS

- To Drawing Numbers 0101445-001-D, 0101445-003-D and 0101445-005-D, **DELETE** in their entirety and **REPLACE** with Drawing Numbers 0101445-001-D, 0101445-003-D, 0101445-005-D, pages 16 through 18 of this Addendum.

Elif E. Cetin, Director
Engineering & Capital Projects Department

Dated: *February 20, 2026*
San Diego, California

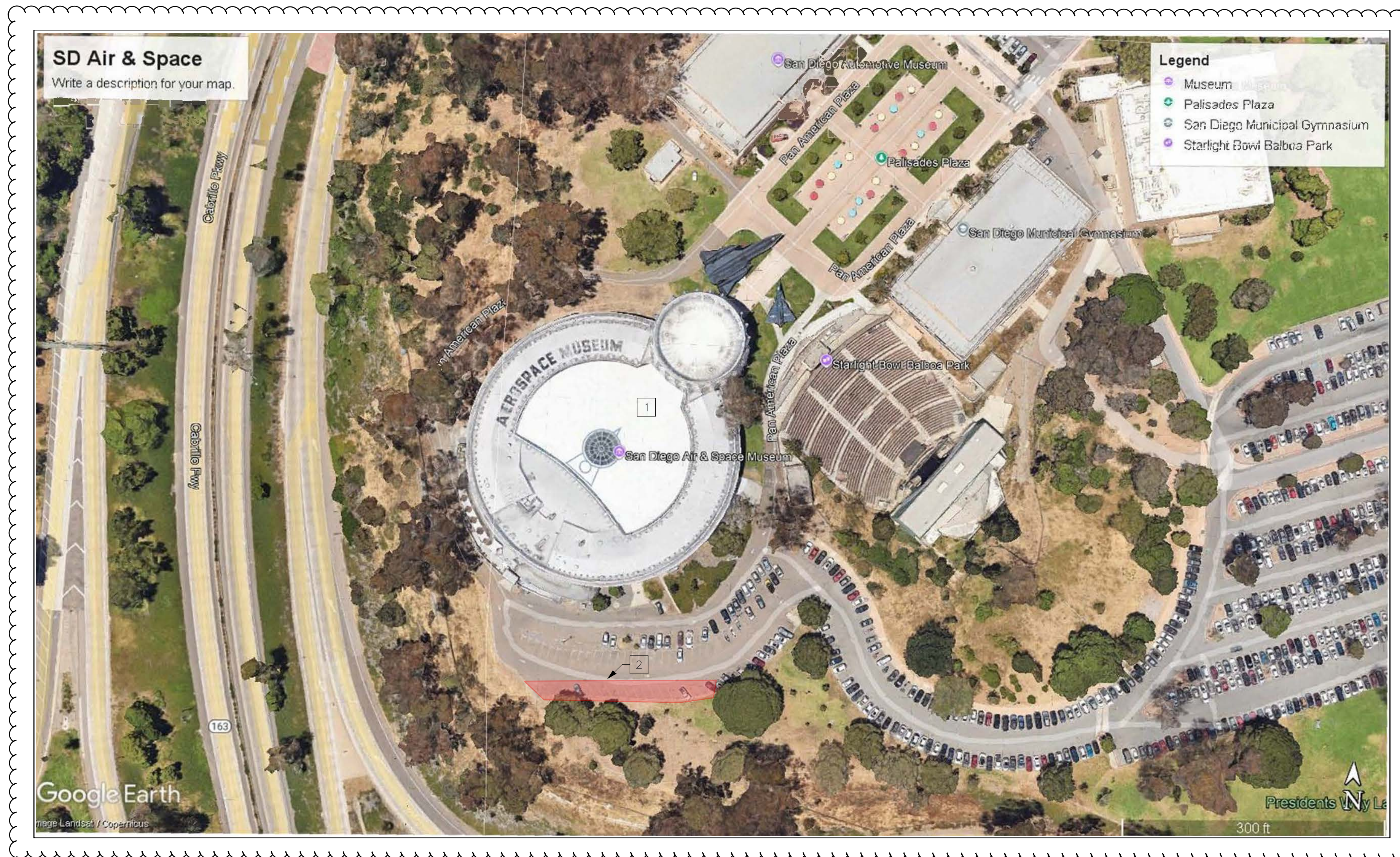
EEC/Aj/yk/egz

AIR & SPACE MUSEUM ROOF REPLACEMENT

2001 PAN AMERICAN PLAZA, SAN DIEGO, CA 92101

LOCATION & VICINITY MAP	DESCRIPTION OF WORK	GOVERNING CODES & REGULATIONS	PROJECT DIRECTORY	SHEET INDEX																																																																																																																																												
<p style="text-align: center;">2001 PAN AMERICAN PLAZA, SAN DIEGO, CA 92101</p>	<p>RE-COATING OF EXISTING SINGLE PLY ROOFING SYSTEM AT TOWER/ROTUNDA TO EXTEND WARRANTY. REMOVAL & REPLACEMENT OF ROOFING SYSTEM AT DONUT SHAPED LOWER ROOF WITH A NEW SINGLE PLY SYSTEM. INSTALLATION OF NEW INTERIOR LADDERS & ROOF OPENING GUARDS AT EXISTING ROOF HATCHES. REPAIR OR REPLACEMENT OF DAMAGED ROOF DRAINS/PIPING, INCLUDING BELOW GRADE CONCRETE PIPES, CLEAN AND RELINE PIPES. REPAIR AND/OR REPLACEMENT OF DAMAGED SEGMENTS OF SHEET METAL VERTICAL FINNS AROUND TOWER/ROTUNDA. REPLACEMENT OF FIN LIGHTING AND LIGHTING AT ROOF SCREEN WALLS. REPAIR AND REPLACEMENT OF DAMAGED AREAS OF EXTERIOR CEMENT PLASTER SYSTEM. REPAINT EXTERIOR OF BUILDING.</p> <p>THERE WILL BE NO CHANGE TO BUILDING'S HEIGHT, AREA, OR OCCUPANCY.</p> <p>THE AIR & SPACE MUSEUM BUILDING IS A QUALIFIED HISTORICAL STRUCTURE AND IS A CONTRIBUTOR TO THE BALBOA PARK, A NATIONAL HISTORICAL LANDMARK DISTRICT. AS SUCH, IMPROVEMENTS TO THE BUILDING AND ASSOCIATED GROUNDS SHALL FOLLOW THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES WITH GUIDELINES FOR RESTORING AND RECONSTRUCTING HISTORIC BUILDINGS, 2017 EDITION. THE CURRENT CALIFORNIA HISTORICAL BUILDING CODE SHALL BE USED FOR CODE COMPLIANCE MITIGATION.</p> <p>FEDERAL AVIATION ADMINISTRATION REVIEW</p> <p>THE PROJECT WAS SUBMITTED TO THE FEDERAL AVIATION ADMINISTRATION (FAA) TO DETERMINE IF THE EXTERIOR ACCENT LIGHTING BEING PROPOSED WOULD BE A HAZARD TO AVIATION. PROJECT NAME: CITY-000847624-24. AERONAUTICAL STUDY NUMBER (ASN): 2024-AWP-3043-OE.</p> <p>THE FAA HAS DETERMINED THAT THIS PROJECT POSES NO HAZARD TO AIR NAVIGATION. (RULING ISSUED 06/24/2024).</p> <p>STORM WATER PROTECTION NOTES</p> <p>CONSTRUCTION STORM WATER PROTECTION NOTES: TOTAL SITE DISTURBANCE AREA (ACRES) 0.05 HYDROLOGIC UNIT/WATERSHED: PUEBLO SAN DIEGO HILL/SAN DIEGO BAY WATERSHED HYDROLOGIC SUBAREA NAME & NO. LINDBERGH 908.2E1 1. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE: <input checked="" type="checkbox"/> MINOR WPCP <input type="checkbox"/> WPCP <input type="checkbox"/> SWPPP <input type="checkbox"/> MS4 PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100 PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100 PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100 AND R9-2015-0100 AND R9-2015-0100 CONSTRUCTION GENERAL PERMIT (CGP) ORDER 2022-0057 DWG TRADITIONAL RISK LEVEL <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 LUP: RISK TYPE <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 3. CONSTRUCTION SITE PRIORITY ASB: <input type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW <input checked="" type="checkbox"/> 4 <input type="checkbox"/> PRIORITY DEVELOPMENT PROJECT <input type="checkbox"/> STANDARD DEVELOPMENT PROJECT <input type="checkbox"/> PDP EXEMPT <input checked="" type="checkbox"/> NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS</p> <p>PERMANENT STORM WATER BMP CATEGORY: <input type="checkbox"/> PRIORITY DEVELOPMENT PROJECT <input type="checkbox"/> STANDARD DEVELOPMENT PROJECT <input type="checkbox"/> PDP EXEMPT <input checked="" type="checkbox"/> NOT SUBJECT TO PERMANENT STORM WATER REQUIREMENTS</p>	<p>THE CONSTRUCTION OF PROJECT SHALL BE IN CONFORMANCE WITH THE CURRENT ADOPTED EDITIONS OF THE FOLLOWING CODES:</p> <p>THE SECRETARY OF INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES WITH GUIDELINES FOR PRESERVING, REHABILITATING, RESTORING & RECONSTRUCTION OF HISTORIC BUILDINGS U.S.D.I. NPS 2017</p> <p>2010 AMERICANS WITH DISABILITIES ACT (ADA) - EXEMPT CCR - CALIFORNIA CODE OF REGULATIONS TITLE 19 - PUBLIC SAFETY TITLE 24 - CALIFORNIA BUILDING STANDARD CODE 24, CCR.</p> <ul style="list-style-type: none"> • 2022 BUILDING STANDARDS ADMIN. CODE, PART 1, TITLE 24 C.C.R. (C.C.R.) • 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. • 2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. • 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R. • 2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. • 2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R. • 2022 CALIFORNIA HISTORIC BUILDING CODE, PART 8, TITLE 24 C.C.R. • 2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R. • 2022 CALIFORNIA EXISTING BUILDING CODE, PART 10, TITLE 24, C.C.R. • 2022 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R. • 2022 PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS TITLE 19 C.C.R. <p>LOCAL AGENCIES:</p> <ul style="list-style-type: none"> • CITY OF SAN DIEGO - FIRE MARSHAL ACCESS • STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, "THE GREENBOOK" 2021 • "THE WHITEBOOK" 2021 - SAN DIEGO SUPPLEMENT TO "THE GREENBOOK" 2021 STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION EDITION 2021 • ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS. <p>CITY OF SAN DIEGO POLICY COMPLIANCE:</p> <ul style="list-style-type: none"> • COMPLY WITH HAZARDOUS MATERIALS PER CITY OF SAN DIEGO BULLETIN 116. • COMPLY WITH CONSTRUCTION & DEMOLITION DEBRIS PER CITY OF SAN DIEGO BULLETIN 119. <p>FIRE DEPARTMENT NOTES/PROTECTION:</p> <ul style="list-style-type: none"> • DURING CONSTRUCTION, AT LEAST ONE EXTINGUISHER SHALL BE PROVIDED ON EACH FLOOR LEVEL AT EACH STAIRWAY, IN ALL STORAGE AND CONSTRUCTION SHEDS, IN LOCATIONS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED OR USED, AND WHERE OTHER SPECIAL HAZARDS ARE PRESENT PER CFC SECTION 3315.1. • BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION SHALL CONFORM TO CFC CHAPTER 33, WELDING, CUTTING, AND OTHER HOT WORK SHALL BE IN CONFORMANCE WITH CFC CHAPTER 35. • OPEN FLAMES, FIRE, AND BURNING ON ALL PREMISES IS PROHIBITED EXCEPT AS SPECIFICALLY PERMITTED BY THE CITY OF SAN DIEGO AND CFC, SECTION 308. • THE EGRESS PATH SHALL REMAIN FREE AND CLEAR OF ALL OBSTRUCTIONS AT ALL TIMES. NO STORAGE IS PERMITTED IN ANY EGRESS PATHS. <p>PARK CONSTRUCTION INSPECTION TEAMS AND STAGES</p> <p>PARK INSPECTION TEAM</p> <ol style="list-style-type: none"> A. SITE SUPERINTENDENT (CONTRACTOR) B. CONTRACTOR(S) C. RESIDENT ENGINEER FROM CONSTRUCTION MANAGEMENT FIELD ENGINEERING DIVISION D. CITY PROJECT MANAGER E. DESIGN CONSULTANT F. PARK AND RECREATION DISTRICT MANAGER G. PARK AND RECREATION ASSET MANAGER H. ACCESSIBILITY COMPLIANCE MANAGER <p>PARK CONSTRUCTION INSPECTION STAGES</p> <p>INSPECTION SCHEDULE SHALL INCLUDE-BUT NOT BE LIMITED TO</p> <ol style="list-style-type: none"> 1. PRE-CONSTRUCTION MEETING. 2. DEMOLITION MARKOUT. 3. PROJECT CONSTRUCTION 90 PERCENT COMPLETE (DEVELOP PUNCH LIST AND SUBMIT RED-LINE AS-BUILTS). 4. FINAL WALK-THROUGH, ACCEPTANCE BY THE CITY. CONTRACTOR TO SUBMIT FINAL APPROVED AS-BUILT DRAWINGS TO THE CITY. 	<p>CLIENT / LEGAL OWNER CITY OF SAN DIEGO - ECP 525 B STREET, SUITE 750 SAN DIEGO, CA 92101 PH: (619) 533-6671 JOSE CASTANEYRA jccastaneyra@sandiego.gov</p> <p>ARCHITECT PLATT/WHITELAW ARCHITECTS INC. 2251 SAN DIEGO AVENUE, SUITE B-250 SAN DIEGO, CA 92110 PH: (619) 546-4326 NAVEEN WANNEY nwaney@plattwhitelaw.com</p> <p>MECHANICAL&PLUMBING TURPIN & RATTAN ENGINEERING, INC. 4719 PALM AVENUE LA MESA, CA 91941 PH: (619) 466-6224 CHRIS HAMMETT chammeh@treisd.com</p> <p>ELECTRICAL TURPIN & RATTAN ENGINEERING, INC. 4719 PALM AVENUE LA MESA, CA 91941 PH: (619) 466-6224 DALE FRANCHAK dfranchak@treisd.com</p> <p>COST ESTIMATORS CAMPBELL-ANDERSON & ASSOCIATES, INC. 4660 LA JOLLA VILLAGE DRIVE, SUITE 775 SAN DIEGO, CA 92122 PH: (858) 455-8086 GRAHAM C. ANDERSON, MRICS</p> <p>JC CONSTRUCTION COST MANAGEMENT, LLC 510 NORTH ACACIA AVENUE SOLANA BEACH, CA 92075 PH: (858) 353-0985 JANET CHURCHES janet@jc-ccm.com</p> <p>HISTORIC PAINT COLOR ANALYSIS NATASHA K. LOEBLICH Conservator & Paint Analyst 19303 SE 30th STREET CAMAS, WA 98607 PH: (360) 932-8809 NATASHA K. LOEBLICH nloeblich@gmail.com</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SHEET NO.</th> <th>DRAWING NO.</th> <th>DISCIPLINE CODE</th> <th>TITLE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0101445-001-D</td> <td>G001</td> <td>GENERAL COVER SHEET</td> </tr> <tr> <td>2</td> <td>0101445-002-D</td> <td>G002</td> <td>GENERAL NOTES & ABBREVIATIONS</td> </tr> <tr> <td colspan="4">ARCHITECTURAL</td> </tr> <tr> <td>3</td> <td>0101445-003-D</td> <td>A001</td> <td>SITE PLAN</td> </tr> <tr> <td>4</td> <td>0101445-004-D</td> <td>A100</td> <td>ROOF DEMOLITION PLAN</td> </tr> <tr> <td>5</td> <td>0101445-005-D</td> <td>A101</td> <td>ROOF IMPROVEMENT PLAN</td> </tr> <tr> <td>6</td> <td>0101445-006-D</td> <td>A200</td> <td>WEST & NORTH DEMOLITION ELEVATIONS</td> </tr> <tr> <td>7</td> <td>0101445-007-D</td> <td>A201</td> <td>EAST & SOUTH DEMOLITION ELEVATIONS</td> </tr> <tr> <td>8</td> <td>0101445-008-D</td> <td>A202</td> <td>WEST & NORTH IMPROVEMENT ELEVATIONS</td> </tr> <tr> <td>9</td> <td>0101445-009-D</td> <td>A203</td> <td>EAST & SOUTH IMPROVEMENT ELEVATIONS</td> </tr> <tr> <td colspan="4">DETAILS</td> </tr> <tr> <td>10</td> <td>0101445-010-D</td> <td>A500</td> <td>DETAILS</td> </tr> <tr> <td>11</td> <td>0101445-011-D</td> <td>A501</td> <td>DETAILS</td> </tr> <tr> <td>12</td> <td>0101445-012-D</td> <td>A502</td> <td>DETAILS</td> </tr> <tr> <td>13</td> <td>0101445-013-D</td> <td>A503</td> <td>DETAILS</td> </tr> <tr> <td>14</td> <td>0101445-014-D</td> <td>A504</td> <td>DETAILS</td> </tr> <tr> <td>15</td> <td>0101445-015-D</td> <td>A700</td> <td>BUILDING PHOTOS</td> </tr> <tr> <td>16</td> <td>0101445-016-D</td> <td>A701</td> <td>BUILDING PHOTOS</td> </tr> <tr> <td>17</td> <td>0101445-017-D</td> <td>A702</td> <td>BUILDING PHOTOS</td> </tr> <tr> <td colspan="4">MECHANICAL</td> </tr> <tr> <td>18</td> <td>0101445-018-D</td> <td>M001</td> <td>LEGEND & GENERAL NOTES</td> </tr> <tr> <td>19</td> <td>0101445-019-D</td> <td>M101</td> <td>ROOF PLAN - MECHANICAL</td> </tr> <tr> <td colspan="4">PLUMBING</td> </tr> <tr> <td>20</td> <td>0101445-020-D</td> <td>P001</td> <td>LEGEND & GENERAL NOTES</td> </tr> <tr> <td>21</td> <td>0101445-021-D</td> <td>P100</td> <td>ROOF DEMOLITION PLAN - PLUMBING</td> </tr> <tr> <td>22</td> <td>0101445-022-D</td> <td>P101</td> <td>ROOF IMPROVEMENT PLAN - PLUMBING</td> </tr> <tr> <td>23</td> <td>0101445-023-D</td> <td>P500</td> <td>PLUMBING DETAILS</td> </tr> <tr> <td colspan="4">ELECTRICAL</td> </tr> <tr> <td>24</td> <td>0101445-024-D</td> <td>E001</td> <td>ELECTRICAL LEGEND & GENERAL NOTES</td> </tr> <tr> <td>25</td> <td>0101445-025-D</td> <td>E100</td> <td>ROOF DEMOLITION PLAN - ELECTRICAL</td> </tr> <tr> <td>26</td> <td>0101445-026-D</td> <td>E101</td> <td>ROOF IMPROVEMENT PLAN - ELECTRICAL</td> </tr> <tr> <td>27</td> <td>0101445-027-D</td> <td>E102</td> <td>ELECTRICAL ROOM PLAN & PANEL SCHEDULE</td> </tr> <tr> <td>28</td> <td>0101445-028-D</td> <td>E500</td> <td>ELECTRICAL DETAILS</td> </tr> <tr> <td>29</td> <td>0101445-029-D</td> <td>E501</td> <td>ELECTRICAL DETAILS</td> </tr> </tbody> </table>	SHEET NO.	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<p>LEGAL DESCRIPTION</p> <p>PUBLIC LAND BALBOA PARK*#RR-250735(79) IN AEROSPACE HISTORICAL CENTER</p> <p>APN: 760-212-64-00</p>	<p>GENERAL BUILDING INFORMATION</p> <p>YEAR BUILT: 1935</p> <p>1978 REHABILITATION</p> <p>NUMBER OF STORIES: 2 + BASEMENT</p> <p>BUILDING HEIGHT: +/-90'</p> <p>BUILDING AREA: +/-60,000 SF</p> <p>BUILDING IS FULLY FIRE SPRINKLERED</p> <p>OCCUPANCY: A-3 (MUSEUM)</p> <p>NATIONAL REGISTER OF HISTORIC PLACES LISTING #73000433. CITY OF SAN DIEGO HRB#60. (OCTOBER 25, 2024 CITY OF SAN DIEGO MEMORANDUM FROM SUZANNE SECUR, SENIOR PLANNER, HERITAGE PRESERVATION, CITY PLANNING DEPARTMENT FOUND THIS SET OF DRAWINGS TO BE IN CONFORMANCE WITH THE U.S. SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION OF HISTORIC PROPERTY).</p>	<p>DECLARATION OF RESPONSIBLE CHARGE</p> <p>I HEREBY DECLARE THAT I AM THE ARCHITECT / ENGINEER OF WORK FOR THIS PROJECT THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH 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 ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.</p> <p style="text-align: center;"><i>Naveen Wanney</i></p> <p>NAVEEN WANNEY, ARCHITECT C-33668, EXP DATE 5/31/25 PLATT/WHITELAW ARCHITECTS, INC. 2251 SAN DIEGO AVENUE SUITE B-250, SAN DIEGO, CA 92110 P: (619)546-4326 F:(619) 546-4350 NWANNEY@PLATTWHITELAW.COM</p>	<p>CONSTRUCTION CHANGE</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>CHANGE</th> <th>DATE</th> <th>AFFECTED OR ADDED SHEET NUMBERS</th> <th>APPROVED NO.</th> </tr> </thead> <tbody> <tr> <td></td> <td>02/19/26</td> <td>0101445-003-D, 0101445-005-D</td> <td></td> </tr> </tbody> </table>	CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVED NO.		02/19/26	0101445-003-D, 0101445-005-D		<p>AS-BUILT INFORMATION</p> <p>MATERIALS</p> <p>PIPE CL 235 (WATER)</p> <p>PIPE SDR 35 (SEWER)</p> <p>GATE VALVES</p> <p>FIRE HYDRANTS</p> <p>SEWER MANHOLES</p> <p>REHABILITATE SEWER MANHOLES</p> <p>REHABILITATE SEWER MAIN</p>	<p>CONSULTANT</p> <p>COMPANY ADDRESS:</p> <p>COMPANY PHONE NUMBER:</p> <p>COMPANY EMAIL DATE OF:</p> <p>SIGNING:</p>	<p>SPEC. NO 2396</p> <p>CITY OF SAN DIEGO, CALIFORNIA ENGINEERING & CAPITAL PROJECTS DEPARTMENT SHEET 01 OF 29 SHEETS</p> <p>WBS NO. B-20116</p> <p>APPROVED: <i>William Gibson</i> 03/24/2025 ENGINEER OF WORK AND FOR CITY ENGINEER DATE PROJECT MANAGER</p> <p>WILLIAM GIBSON PRINT EOW / DCE C50640 RCE#</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>DESCRIPTION</th> <th>BY</th> <th>APPROVED</th> <th>DATE</th> <th>FILMED</th> </tr> </thead> <tbody> <tr> <td>60% CD</td> <td>NHW</td> <td></td> <td>11/27/23</td> <td></td> </tr> <tr> <td>90% CD</td> <td>NHW</td> <td></td> <td>5/2/24</td> <td></td> </tr> <tr> <td>100% CD</td> <td>NHW</td> <td><i>William Gibson</i></td> <td>03/24/25</td> <td></td> </tr> </tbody> </table> <p>DRAWING NO. 0101445-001-D</p> <p>CONTRACTOR _____ NTP DATE _____ INSPECTOR _____ NOC DATE _____</p>	DESCRIPTION	BY	APPROVED	DATE	FILMED	60% CD	NHW		11/27/23		90% CD	NHW		5/2/24		100% CD	NHW	<i>William Gibson</i>	03/24/25																																																																																																															
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DESCRIPTION	BY	APPROVED	DATE	FILMED																																																																																																																																												
60% CD	NHW		11/27/23																																																																																																																																													
90% CD	NHW		5/2/24																																																																																																																																													
100% CD	NHW	<i>William Gibson</i>	03/24/25																																																																																																																																													
		<p>PLANS FOR THE CONSTRUCTION OF: AIR & SPACE MUSEUM ROOF REPLACEMENT 2001 PAN AMERICAN PLAZA, SAN DIEGO, CA 92101</p> <p style="text-align: center;">COVER SHEET</p>																																																																																																																																														

AIR & SPACE MUSEUM ROOF REPLACEMENT

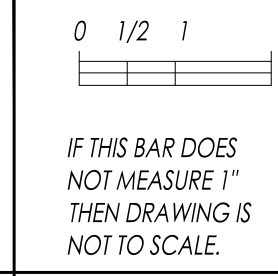


1 SITE PLAN/SATELLITE IMAGE
SCALE: N.T.S.

GENERAL NOTES

1. SITE PLAN IS A SATELLITE IMAGE FROM GOOGLE MAPS. IT IS FOR REFERENCE ONLY TO ASSIST CONTRACTOR IN DETERMINING ACCESS AND POTENTIAL STAGING AREAS. VERIFY ACTUAL CONDITIONS IN FIELD AND COORDINATE STAGING, AND OTHER CONSTRUCTION ACTIVITIES, WITH OWNER.
2. THE AIR & SPACE MUSEUM AND ITS ACCESS ROADS ARE TO REMAIN OPEN TO THE PUBLIC AND ACCESSIBLE DURING CONSTRUCTION. ONLY PARKING SPACES COORDINATED WITH OWNER FOR CONTRACTOR USE MAY BE BLOCKED.

LEGEND



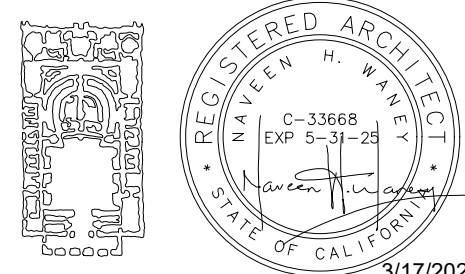
PLANS FOR THE CONSTRUCTION OF:
AIR & SPACE MUSEUM ROOF REPLACEMENT
2001 PAN AMERICAN PLAZA, SAN DIEGO, CA 92101
SITE PLAN

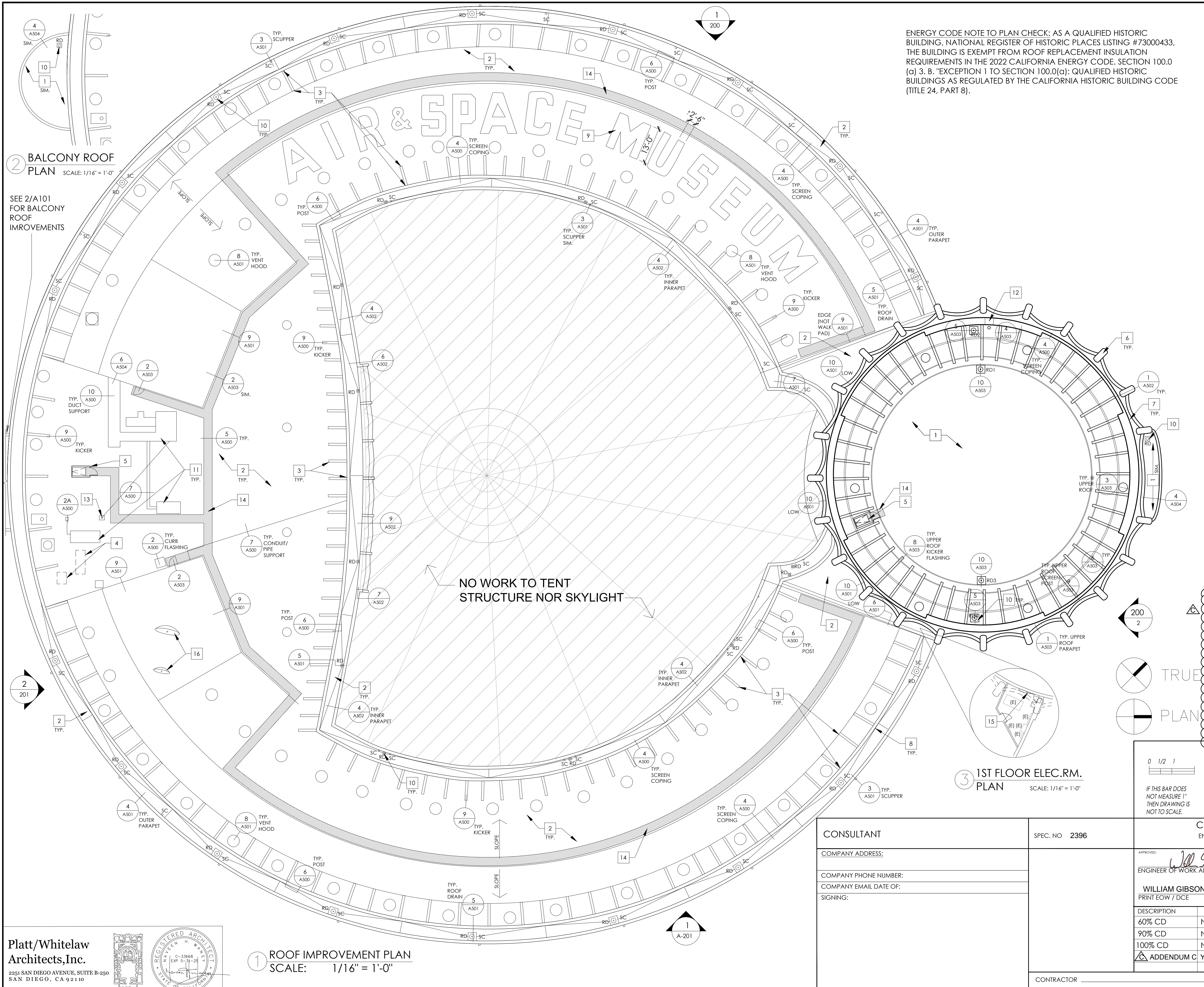
#	KEYNOTES
1	LOCATION OF AIR & SPACE MUSEUM BUILDING.
2	POTENTIAL LOCATION OF PARKING & STAGING AREA FOR CONTRACTORS. VERIFY LOCATION WITH OWNER.

CONSULTANT	SPEC. NO. 2396
COMPANY ADDRESS:	
COMPANY PHONE NUMBER:	
COMPANY EMAIL DATE OF:	
SIGNING:	

CITY OF SAN DIEGO, CALIFORNIA ENGINEERING & CAPITAL PROJECTS DEPARTMENT SHEET 03 OF 29 SHEETS		WBS NO. B-20116
APPROVED BY: <i>WJG</i>	DATE: 03/24/2025	SUBMITTED BY: JOSE CASTANEYRA PROJECT MANAGER
ENGINEER OF WORK AND FOR CITY ENGINEER		CHECKED BY: PROJECT ENGINEER
WILLIAM GIBSON PRINT EOW / DCE	C50640 RCE#	204-1721
DESCRIPTION	BY	APPROVED
60% CD	NHW	11/27/23
90% CD	NHW	5/2/24
100% CD	NHW	03/24/25
ADDENDUM C	YL/WG	02/19/26
CONTRACTOR	NIP DATE	DRAWING NO. A001
INSPECTOR	NOC DATE	0101445-003-D

Platt/Whitelaw
Architects, Inc.
2251 SAN DIEGO AVENUE, SUITE B-250
SAN DIEGO, CA 92110





ENERGY CODE NOTE TO PLAN CHECK: AS A QUALIFIED HISTORIC BUILDING, NATIONAL REGISTER OF HISTORIC PLACES LISTING #73000433, THE BUILDING IS EXEMPT FROM ROOF REPLACEMENT INSULATION REQUIREMENTS IN THE 2022 CALIFORNIA ENERGY CODE, SECTION 100.0 (a) 3. B. "EXCEPTION 1 TO SECTION 100.0(a): QUALIFIED HISTORIC BUILDINGS AS REGULATED BY THE CALIFORNIA HISTORIC BUILDING CODE (TITLE 24, PART 8).

- ### KEYNOTES
- (E) SMOOTH ALUMINUM SURFACED 1-PLY, FULLY ADHERED TPA ROOFING SYSTEM. REPAIR, PREP & PRIME AND PROVIDE POLYURETHANE TOP COATING SYSTEM. RESEAL PENETRATIONS & REPLACE DAMAGED SEALANT.
 - PROVIDE FULLY ADHERED 60-MIL KEE FB SINGLE PLY ROOFING SYSTEM WITH COVER BOARDS
 - USE FLUID APPLIED FIBERGLASS REINFORCED FLASHING SYSTEM AT WOOD AND STEEL ANGLE SCREEN WALL POSTS & KICKERS. SEE 6/A500 & 9/A500.
 - PROVIDE PLYWOOD SHEATHING & 2X INFILL AT ABANDONED OPENINGS. ROOF OVER. SEE 3/A500.
 - PROVIDE NON-PENETRATING SAFETY RAILS AROUND ROOF HATCH OPENINGS - SEE 2/A502. PROVIDE OSHA COMPLIANT INTERIOR LADDER(S) TO INTERIOR ACCESS POINTS - SEE 8&9/A504
 - PROVIDE LIGHTING IN FINS PER ELECTRICAL
 - PROVIDE ACCENT LIGHTING AROUND ROTUNDA ROOF SCREEN PER ELECTRICAL
 - PROVIDE ACCENT LIGHTING AROUND LOWER ROOF SCREEN PER ELECTRICAL
 - PROVIDE CONTRASTING COLOR SIGNAGE. PAINT ON ROOF USING ROOFING MEMBRANE COMPATIBLE PAINT. (TREMCO SOLARGARD ACRYTHANE, OR EQUAL, BY ROOFING MFR.). FONT: 'IMPACT'. TAPE OUT LAYOUT FOR CLIENT APPROVAL BEFORE PROCEEDING
 - PROVIDE ROOF DRAIN PER PLUMBING. REUSE EXISTING PIPING THAT IS IN GOOD CONDITION. REPLACE DAMAGED PIPING PER PLUMBING
 - REPLACE EXISTING MECHANICAL UNIT SHEET METAL PANS & RE-FLASH CURBS. LIFT AS REQUIRED & REINSTALL EQUIPMENT PER MECHANICAL. SEE 1/A500.
 - REPAIR HOLE IN EXTERIOR CEMENT PLASTER. SEE PHOTO 4/A702 AND DETAIL 2/A504.
 - PROVIDE ROOF RECEPTOR PER PLUMBING DRAWINGS
 - PROVIDE SLIP-RESISTANT WALKWAY ROLL BY ROOFING MFR.
 - PROVIDE EXTERIOR ACCENT LIGHTING CONTROLS PER E102. ROUTE WIRING DOWN FROM ROOF IN SPACE BETWEEN WALLS. PATCH & PAINT ANY AREAS THAT REQUIRE CUTTING FOR ACCESS TO MATCH (E) ADJACENT SURFACES. AVOID CUTTING AT MUSEUM EXHIBIT LOCATIONS.
 - LIFT (E) SATELLITE DISHES TO ROOF UNDER

LEGEND

	ROOFING AREA N.I.C		ROOF DRAIN
	(E) ROOF HATCH		OVERFLOW SCUPPER
	(E) FAN DISCHARGE		ROOF WALKPAD

- ### GENERAL NOTES
- ALL ROOFING SYSTEMS TO BE CLASS 'A'.
 - ALL ROOFING TO MEET CALIFORNIA COOL ROOF REQUIREMENTS.
 - ALL ROOF DRAIN PIPING WITHIN BUILDING TO BE SNAKED, MECHANICALLY CLEANED, AND CCTV INSPECTED, PER GREENBOOK 500-3. ASSUME ADDITIONAL HYDRO-CUTTING WILL BE REQUIRED FOR 50% OF ROOF DRAIN PIPING. PROVIDE LINE ITEM COST FOR EACH IN BID. ALL ROOF DRAIN PIPING WITHIN BUILDING SHALL BE RE-LINED (CURED-IN-PLACE), PER GREENBOOK 500-5.5. SEE RECORD DOCUMENTS FOR EXISTING PIPING ROUTING.
 - ALL CONCRETE DRAINAGE PIPES BELOW GRADE TO BE MECHANICALLY CLEANED, CCTV INSPECTED, AND HYDRO-CUT, PER GREENBOOK 500-3. ASSUME 100' OF PIPE HAS COLLAPSED AND REQUIRES REPLACEMENT; FIVE POINT REPAIRS, TO BE DONE PER GREENBOOK 500-4, WILL BE NEEDED TO REPLACE THE COLLAPSED SEGMENTS OF PIPE. ALL CONCRETE DRAINAGE PIPES BELOW GRADE SHALL BE RE-LINED (CURED-IN-PLACE). ASSUME ADDITIONAL ROOF-CUTTING SHALL BE REQUIRED FOR 50% OF DRAINAGE PIPES. SEE RECORD DOCUMENTS FOR EXISTING PIPING ROUTING.

PLANS FOR THE CONSTRUCTION OF:
AIR & SPACE MUSEUM ROOF REPLACEMENT
 2001 PAN AMERICAN PLAZA, SAN DIEGO, CA 92101
ROOF IMPROVEMENT PLAN

2 BALCONY ROOF PLAN
 SCALE: 1/16" = 1'-0"

SEE 2/A101 FOR BALCONY ROOF IMPROVEMENTS

NO WORK TO TENT STRUCTURE NOR SKYLIGHT

3 1ST FLOOR ELEC. RM. PLAN
 SCALE: 1/16" = 1'-0"

1 ROOF IMPROVEMENT PLAN
 SCALE: 1/16" = 1'-0"

Platt/Whitelaw Architects, Inc.
 2251 SAN DIEGO AVENUE, SUITE B-250
 SAN DIEGO, CA 92110

CONSULTANT	SPEC. NO. 2396	CITY OF SAN DIEGO, CALIFORNIA ENGINEERING & CAPITAL PROJECTS DEPARTMENT SHEET 05 OF 29 SHEETS		WBS NO. B-20116
COMPANY ADDRESS:		APPROVED: <i>William Gibson</i> ENGINEER OF WORK AND FOR CITY ENGINEER DATE 03/24/2025	SUBMITTED BY: JOSE CASTANEYRA PROJECT MANAGER	
COMPANY PHONE NUMBER:		WILLIAM GIBSON PRINT EOW / DCE C50640 RCE#	CHECKED BY: PROJECT ENGINEER	
COMPANY EMAIL DATE OF:			204-1721	
SIGNING:			CCS27 COORDINATES	
			CCS83 COORDINATES	
			DRAWING NO. 0101445-005-D	A101
CONTRACTOR		NIP DATE		
INSPECTOR		NOC DATE		

Bid Result

Bidder Details

Vendor Name SOLPAC Construction, Inc.
Address 2424 Congress Street
San Diego, California 92110
United States
Respondee Kevin M. Cammall
Respondee Title Vice President
Phone 619-296-6247
Email estimating@soltekpacific.com
Vendor Type CADIR
License # 886641
CADIR 1000000370

Bid Detail

Bid Format Electronic
Submitted 03/03/2026 1:51 PM (PST)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 464079

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Contractor's Certification of Pending Actions	CERTIFICATION OF PENDING ACTIONS.pdf	Contractor's Certification of Pending Actions
Mandatory Disclosure of Business Interests Form	Mand. Disclosure of Business Interest.pdf	Mandatory Disclosure of Business Interests Form
Prime Debarment and Suspension Certification	Prime Debarment.pdf	Prime Debarment and Suspension Certification
SUBCONTRACTOR DEBARMENT FORMS.pdf	SUBCONTRACTOR DEBARMENT FORMS.pdf	Subcontractors Debarment and Suspension Certification
Bid Bond Completed.pdf	Bid Bond Completed.pdf	Bid Bond

Subcontractors

Showing 10 Subcontractors

Name & Address	Desc	License Num	CADIR	Amount	Type
ACCI Roofing Services 14526 OLDE HIGHWAY 80 EL CAJON, California 92021	CONSTRUCTOR/RC	840297	1000002422	\$1,390,000.00	FEM, LAT, CADIR, Local
AMERICAN SCAFFOLD LLC PO BOX 2364 DAPHNE, Alabama 36526	CONSTRUCTOR/ SCFFOLDING	1088818	1000937839	\$290,000.00	
BAYVIEW ENVIRONMENTAL SERVICE 6925 SAN LEANDRO ST OAKLAND, California 94621	CONSTRUCTION/DI & ABATEMENT	684341	1000002423	\$830,000.00	
Buescher Electric, Inc 157 Palm Avenue Imperial Beach, California 91932	CONSTRUCTOR/ELI	917219	1000006809	\$1,100,000.00	Local
Canin Coatings 2383 Cardinal Drive Apt 10 San Diego, California 92123	constructor/paintin	977095	1000037928	\$175,235.00	Local
Colson Plumbing LLC 18023 Calle Ambiente Suite 301 Rancho Santa Fe, California 92067	constructor/plumbi	1141348	2000013629	\$189,000.00	DVBE, MBE, CADIR, SDB, NAT, MALE, Local
EHMCKE SHEET METAL CORP P O BOX 13010 san diego, California 92170	CONSTRUCTOR/SH METAL	605901	1000008702	\$299,000.00	Local
Helix Mechanical Inc. 1100 N. Magnolia Ave Suite L El Cajon, California 92020	CONSTRUCTOR/ME	834736	1000002405	\$42,000.00	CADIR, DTSg, DTSe, Local
Oak Hollow Restoration 444 Sixth St. Norco, California 92860	CONSTRUCTOR/PL	1051967	1000364957	\$417,000.00	
Perry Plumbing & Pipelining PO BOX 538 National City, California 91951	CONSTRUCTOR/EP PIPE LINER	571032	1000434149	\$977,000.00	DTSe, DTSg, Local

Line Items

Discount Terms No Discount

Item #	Item Code	Type	Item Description	UOM	QTY	Unit Price	Line Total	Response	Comment
Main Bid							\$7,878,568.00		
1	524126		Bonds (Payment and Performance)	LS	1	\$90,000.00	\$90,000.00	Yes	
2	238910		Roof Demo	LS	1	\$598,765.00	\$598,765.00	Yes	
3	238160		Main Building: New Roof Finish Including Full and Complete Installation of New 60MIL FB Single-ply Roofing System per Plans, Including All Flashings and Roof Penetrations	LS	1	\$2,394,095.84	\$2,394,095.84	Yes	
4	238160		Rotunda: Existing Single Ply Roofing System: Repair Prep Prime and Apply New Polyurethane Top Coating	SF	10600	\$18.85	\$199,810.00	Yes	
5	238140		Main Building and Rotunda: Remove and Replace Stucco Including Lath and Wood Framing Where Required per Plans (Inclusive of the Additional 10% of Repair Area).	SF	5674	\$36.40	\$206,533.60	Yes	
6	238140		Main Building: Slurry Coat Repair of Plaster Cracks (30% of Stucco of Main Building)	SF	17000	\$6.35	\$107,950.00	Yes	
7	238140		Rotunda: Slurry Coat Repair of Plaster Cracks (100% of Stucco of Rotunda)	LS	1	\$61,637.00	\$61,637.00	Yes	
8	238140		Main Building: Chip Out Cracks and Repair Stucco at Significant Cracking	LF	100	\$52.25	\$5,225.00	Yes	
9	238140		Rotunda: Chip Out Cracks and Repair Stucco at Significant Cracking	LF	2100	\$52.25	\$109,725.00	Yes	
10	238320		Prepare, Prime and Re-paint All Exterior Walls to Match Existing	LS	1	\$93,450.00	\$93,450.00	Yes	
11	238320		Prepare, Prime and Re-paint All Window Framing, Main Entrance Doors, and Building Letter Signage	LS	1	\$22,685.00	\$22,685.00	Yes	
12	238320		Prepare, Prime and Re-paint All Sheet Metal Coping	LS	1	\$7,550.00	\$7,550.00	Yes	
13	238320		Prepare, Prime and Re-paint All Steel Pipe Rail Systems and Columns	LS	1	\$11,450.00	\$11,450.00	Yes	
14	238190		Remove/Replace Existing Sheet Metal Fin Segments, Approx. 8 Foot Long Each per Plans (Including Additional 10% Allowance)	EA	35	\$3,085.72	\$108,000.20	Yes	
15	238190		Repair/Replace Fin Joint Segments at Areas of Corrosion on Sheet Metal Fins	LF	1264	\$87.82	\$111,004.48	Yes	
16	238190		Prepare, Prime and Re-paint Fin Segments, Full and Complete; Remove Fin Covers Where Required; Repair Corrosion to Fin Covers Not Already Addressed in Bid Items 14 and 15; Repair/Replace Metal Angles and Brackets; Prepare, Prime and Paint	LS	1	\$40,100.00	\$40,100.00	Yes	
17	238220		HVAC Equipment Removal and Reinstallation Including New Metal Curb Cap with Flashing After Roof Installation	LS	1	\$57,070.00	\$57,070.00	Yes	
18	238220		All Roof Drain Piping Within Building; Snaked, Mechanically Cleaned, CCTV Inspected	LS	1	\$157,500.00	\$157,500.00	Yes	
19	238220		50% of Roof Drain Piping; Hydro-cut	LS	1	\$7,500.00	\$7,500.00	Yes	
20	238220		All Roof Drain Piping Within Building; Re-lined (Cured-in-place)	LS	1	\$236,250.00	\$236,250.00	Yes	
21	238220		All Concrete Drainage Pipes Below Grade; Mechanically Cleaned, CCTV Inspected, Hydro-cut	LS	1	\$140,000.00	\$140,000.00	Yes	
22	237990		Collapsed Concrete Drainage Pipes Below Grade; Remove and Replace (With Up To Five Point Repairs)	LF	100	\$1,827.00	\$182,700.00	Yes	
23	237990		All Concrete Drainage Pipes Below Grade; Re-lined (Cured-in-place)	LS	1	\$253,750.00	\$253,750.00	Yes	
24	238210		Disconnect and Remove Neon Lighting Behind Fins, Retain Existing Lighting Circuits	EA	23	\$242.48	\$5,577.04	Yes	
25	238210		Full and Complete Installation of New Exterior Lighting Attached to Fin: Fixture Type SA, Color Changing LED Luminaire Including Cables, Connect to Existing Circuits, 72'-0" per Plans	LF	2720	\$371.72	\$1,011,078.40	Yes	
26	238210		Full and Complete Installation of New Exterior Lighting Attached to Building: Fixture Type SB, Color Changing LED Luminaire Including Cables, Connect to Existing Circuits per Plans	LF	1271	\$85.43	\$108,581.53	Yes	
27	238210		New Lighting Control Processor Including Program	LS	1	\$14,216.91	\$14,216.91	Yes	
28	562910		Hazardous Material Abatement	LS	1	\$226,689.00	\$226,689.00	Yes	
29	238160		Roof Ladder; 20'-0" Tall	LS	1	\$8,293.00	\$8,293.00	Yes	
30	238160		Roof Ladder; 64'-0" Tall	LS	1	\$26,538.00	\$26,538.00	Yes	
31	238290		Hoisting, Rigging and Scaffolding	LS	1	\$293,920.00	\$293,920.00	Yes	
32	238210		Mobilization	LS	1	\$200,000.00	\$200,000.00	Yes	
33			Field Orders (EOC Type II)	AL	1	\$750,000.00	\$750,000.00	Yes	
34	237310		Minor WPCP Development and Implementation	LS	1	\$26,643.00	\$26,643.00	Yes	
35	562910		Hazardous Waste Operations and Emergency Response (HAZWOPER) Certification (EOC Type I)	AL	1	\$4,280.00	\$4,280.00	Yes	

Line Item Subtotals

Section Title	Line Total
Main Bid	\$7,878,568.00
Grand Total	\$7,878,568.00

SUBCONTRACTOR LISTING (OTHER THAN FIRST TIER)

Pursuant to California Senate Bill 96 and in accordance with the requirements of Labor Code sections 1771.1 and 1725.5, by submitting a bid or proposal to the City, Contractor is certifying that he or she has verified that all subcontractors used on this public work project are registered with the California Department of Industrial Relations (DIR). **The Bidder is to list below the name, address, license number, DIR registration number of any (known tiered subcontractor)** - who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement pursuant to the contract. **If none are known at this time, mark the table below with non-applicable (N/A).**

Prime Contractor Name: SOLPAC CONSTRUCTION INC dba SOLTEK PACIFIC CONSTRUCTION COMPANY

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	DIR REGISTRATION NUMBER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK
Name: <u>Bayview Demolition Services</u> Address: <u>1839 Cleveland Ave.</u> City: <u>National City</u> State: <u>California</u> Zip: <u>91950</u> Phone: <u>213-419-5431</u> Email: <u>gmarocco@bayviewservices.com</u>	Constructor	1000002529	764068	Sub-tier to Bayview Environmental Services, Inc. for clean demolition scope of work.
Name: <u>Marco Crane and Rigging</u> Address: <u>221 South 35th Avenue</u> City: <u>Phoenix</u> State: <u>Arizona</u> Zip: <u>85009</u> Phone: <u>602-272-2671</u> Email: <u>GHughlett@M HoldingCo.com</u>	Constructor	1000000187	621510	Sub-tier to Helix Mechanical for Crane / Hoisting Services
Name: <u>N/A</u> Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____	N/A	N/A	N/A	N/A
Name: <u>N/A</u> Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____	N/A	N/A	N/A	N/A

**** USE ADDITIONAL FORMS AS NECESSARY ****