

City of San Diego

CONTRACTOR'S NAME: Palm Engineering Construction Co., Inc.

ADDRESS: 7330 Opportunity Rd., Suite A, San Diego, CA 92111

TELEPHONE NO.: 161-929-1149

FAX NO.:

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Phone No. (619) 533-3104

C. Delgado / M. Jirjis Nakasha / L. Ambriz

BIDDING DOCUMENTS



FOR

HODGES NEAR-TERM REPAIRS IMPROVEMENT PROJECT – ACCESS IMPROVEMENTS AND INSTALLATION PLANS



BID NO.: K-24-2202-DBB-3

SAP NO. (IO): 21005332

CLIENT DEPARTMENT: 2000

COUNCIL DISTRICT: 5

PROJECT TYPE: HB

THIS CONTRACT WILL BE SUBJECT TO THE FOLLOWING:

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

BID DUE DATE:

2:00 PM

AUGUST 22, 2023

CITY OF SAN DIEGO'S ELECTRONIC BIDDING SITE, PLANETBIDS

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

ENGINEER OF WORK

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

MA Tanwar

1) Registered Engineer

7-11-23

Date

Seal:



J. Min Choi

2) For City Engineer

7-10-23

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/index.shtml>

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
1.	Bid Bond (PDF via PlanetBids)	At Time of Bid	ALL BIDDERS
2.	Contractors 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 5 PM 3 working days after bid opening	ALL BIDDERS
8.	Form AA60 – List of Work Made Available	By 5 PM 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.	Listing of "Other Than First Tier" Subcontractors	Within 10 working days of receipt by bidder of contract forms	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 **Hodges Near-Term Repairs Improvement Project - Access Improvements and Installation Plans**. 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 **\$1,910,000**
4. **BID DUE DATE AND TIME ARE: August 22, 2023 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: **A**
7. **SUBCONTRACTING PARTICIPATION PERCENTAGES:** Subcontracting participation percentages apply to this contract.
 - 7.1. 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	8.9%
2. ELBE participation	6.9%
3. Total mandatory participation	15.8%
 - 7.2. The Bid may be declared non-responsive if the Bidder fails to meet the following requirements:
 - 7.2.1. Include SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; OR
 - 7.2.2. 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 5 PM 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.

8. AWARD PROCESS:

- 8.1. 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.
- 8.2. 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.
- 8.3. 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.
- 8.4. The low Bid will be determined by the Base Bid.
- 8.5. Once the low Bid has been determined, the City may, at its sole discretion, award the contract for the Base Bid alone.

9. SUBMISSION OF QUESTIONS:

- 9.1 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:
bfriedenreic@sandiego.gov
- 9.2. Questions received less than 14 days prior to the date for opening of Bids may not be considered.
- 9.3. 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.
- 9.4. 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. The completed application must be submitted online no later than 2 weeks prior to the bid opening.
- 1.3. **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.
 - 1.3.1. Each of the entities of the Joint Venture must have been previously prequalified at a minimum of \$15,000,000.
 - 1.3.2. 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.
 - 1.3.3. 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.
 - 1.3.4. 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.
- 1.4. Complete information and links to the on-line prequalification application are available at:

<http://www.sandiego.gov/cip/bidopps/prequalification>
- 1.5. 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/index.shtml> 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
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/ccs-standard-plans-and-standard-specifications	2018	PWPI030119-05

Title	Edition	Document Number
CALTRANS Standard Plans https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications	2018	PWPI030119-06
California Manual on Uniform Traffic Control Devices Revision 6 (CA MUTCD Rev 6) https://dot.ca.gov/programs/safety-programs/camutcd/camutcd-files	2014	PWPI060121-10
<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:

Palm Engineering Construction Co., Inc., a corporation, as principal, and NATIONWIDE 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 **ONE MILLION SEVEN HUNDRED NINETY THOUSAND SIX HUNDRED NINETY DOLLARS (\$1,790,690)**, for the faithful performance of the annexed contract, and in the sum of **ONE MILLION SEVEN HUNDRED NINETY THOUSAND SIX HUNDRED NINETY DOLLARS (\$1,790,690)**, 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)

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

By: Stephen Samara

Mara W. Elliott, City Attorney
By: [Signature]

Print Name: Stephen Samara
Principal Contract Specialist
Purchasing & Contracting Dept.

Print Name: Justin Stanley
Deputy City Attorney

Date: 10/16/2023

Date: 12/12/23

PALM ENGINEERING
CONSTRUCTION COMPANY, INC.
CONTRACTOR

NATIONWIDE MUTUAL INSURANCE COMPANY
SURETY

By: [Signature]

By: Mark D. Iatarola
Attorney-In-Fact

Print Name: RASOUL SHAHBAZI, PRESIDENT

Print Name: MARK D. IATAROLA, ATTORNEY-IN-FACT

Date: 09/07/23

Date: SEPTEMBER 6, 2023

500 NORTH BRAND BOULEVARD, SUITE 2000
GLENDALE, CA 91203

Local Address of Sur

949/606-3819

Local Phone Number of Surety

\$16,586.00
PREMIUM IS FOR CONTRACT TERM
AND IS SUBJECT TO ADJUSTMENT
BASED ON FINAL CONTRACT PRICE

Premium

7901152497

Bond Number

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

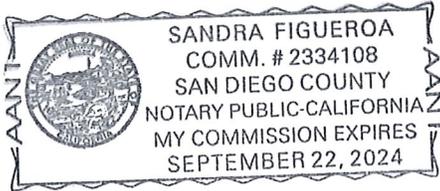
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of SAN DIEGO }

On 9/6/2023 before me, SANDRA FIGUEROA, NOTARY PUBLIC
Date Here Insert Name and Title of the Officer

personally appeared MARK D. IATAROLA
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.

Place Notary Seal and/or Stamp Above

Signature [Handwritten Signature]
Signature of Notary Public

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: MARK D. IATAROLA

Corporate Officer – Title(s): _____

Partner – Limited General

Individual Attorney in Fact

Trustee Guardian of Conservator

Other: _____

Signer is Representing: _____

Signer's Name: _____

Corporate Officer – Title(s): _____

Partner – Limited General

Individual Attorney in Fact

Trustee Guardian of Conservator

Other: _____

Signer is Representing: _____

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

HELEN MALONEY; JOHN G MALONEY; MARK D IATAROLA; SANDRA FIGUEROA; TRACY LYNN RODRIGUEZ;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.

Antonio C. Albanese, Vice President of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF NEW YORK: ss

On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.



Stephanie Rubino McArthur
Notary Public, State of New York
No. 02MC6270117
Qualified in New York County
Commission Expires October 19, 2024

Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 6TH day of SEPTEMBER, 2023.

Assistant Secretary

ATTACHMENTS

ATTACHMENT A
SCOPE OF WORK

SCOPE OF WORK

1. **SCOPE OF WORK:** Crack repairs, spall repairs, and delamination repairs at downstream face of the spillway ogee section. Crack repairs, spall repairs, and delamination repairs between bays within spillway gallery at buttress 2, 3, and 4. Replacement of existing ventilation fan and its connection at Bay 7-8. Safety railing extension up to the upper catwalk along the dam at left abutment. Retrofit metal handrails that provide access to the spillway gallery and the dam at right abutment stairway. Walkways within the dam and on top of the dam. Install new weir in Bay 6-7 and in Bay 7-8.
 - 1.1. The Work shall be performed in accordance with:
 - 1.1.1. The Notice Inviting Bids and Plans numbered **0100251-01-D** through **0100251-33-D**, inclusive.
2. **LOCATION OF WORK:** The location of the Work is as follows:

See **Appendix E – Location Map**
3. **CONTRACT TIME:** The Contract Time for completion of the Work shall be **155 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/index.shtml>

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 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/slbeinst.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.shtml>
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.shtml>
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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 858-627-3200.

- 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 **7:30 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. You shall perform, with your own organization, Contract Work amounting to at least **50%** of the Base Bid.

SECTION 4 - CONTROL OF MATERIALS

4-3.4 Specialty Inspection Paid for by the Contractor. To the "WHITEBOOK", ADD the following:

2. The specialty inspections required are listed as follows:
 - a) Electrical

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

5-4 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..

5-4.3 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:

- i. Ongoing operations performed by you or on your behalf,
- ii. your products,
- iii. your work, e.g., your completed operations performed by you or on your behalf, or
- iv. 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.
- 5-4.6 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.

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 materials in **Appendix D – Sample City Invoice with Cash Flow Forecast** 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 **Lake Hodges Near-Term Repairs Improvement Project**, Project No. **21005332**, 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

To the “WHITEBOOK”, ADD the following:

3. Refer to Caltrans Specifications.

SECTION 7 – MEASUREMENT AND PAYMENT

7-3.1 General. To the “WHITEBOOK”, ADD the following:

4. The Lump Sum Bid item for “**Construction of Hodges Near-Term Repairs Improvement Project – Access and Installation**” shall include, but not limited to, crack repairs, spall repairs, and delamination repairs at downstream face of the spillway ogee section; crack repairs, spall repairs, and delamination repairs between bays within spillway gallery at buttress 2, 3, and 4; replacement of existing ventilation fan and its connection at Bay 7-8; safety railing extension up to the upper catwalk along the dam at left abutment; retrofit metal handrails that provide access to the spillway gallery and the dam at right abutment stairway; walkways within the dam and on top of the dam, specialty inspection, and install new weir in Bay 6-7 and in Bay 7-8 as specified in Plan Sheets **0100251-01-D** through **0100251-33-D**, Contract Documents, and Specifications in Technicals Section. The lump sum shall also include biological monitoring and sound barrier, if it is determined that it is require.

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 802 – NATIVE HABITAT PROTECTION, INSTALLATION, MAINTENANCE, AND
MONITORING**

802-2.1 **Project Biologist.** To the “WHITEBOOK”, ADD the following:

5. You shall retain a qualified Project Biologist to perform biological monitoring Work for this Contract. You shall coordinate your activities and Schedule with the activities and schedules of the Project Biologist.

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 **WPCP**.
-

TECHNICALS

HODGES NEAR TERM REPAIRS IMPROVEMENT PROJECT
ACCESS IMPROVEMENTS AND INSTALLATION PLANS

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DIVISION 03 - CONCRETE

SECTION 03 64 22

EXISTING SPALL REPAIR

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers the following contract items:
1. Sawcut 1-Inch Deep at the various locations, which includes sawcutting existing concrete in preparation for concrete removal, as shown.
 2. Spall Repair at the various locations, which includes removal of existing concrete, and placement of polymer modified repair mortar, as directed.

1.2 RELATED SECTIONS

- A. City of San Diego Whitebook, City of San Diego General Contract Terms and Provisions, and Drawings apply to this section.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to the following:
1. American Concrete Institute (ACI):
 - a. ACI unless otherwise specified, ACI requirements govern the performance of the work of this section.
 2. ICRI 310.2R, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.

1.4 SUBMITTALS

- A. Action Submittals:
1. Polymer Modified Mortar Data:
 - a. Method of product and substrate preparation, and application.
 2. Shop Drawings:
 - a. The Contractor shall submit manufacturer's product information (including product warranties) and recommended placement procedures for all repair materials.
- B. Informational Submittals:
1. Polymer Modified Mortar Data:
 - a. Manufacturer's certification of conformance with these specifications.

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DAM ACCESS IMPROVEMENTS AND INSTALLATION PLANS

2. Certifications:
 - a. Ingredients: Submit laboratory test reports and mill or manufacturer's certificates verifying that ingredients conform to specified requirements and have a minimum of six month's residual shelf life when shipped.
 - b. Product compatibility and equivalence to specified products.
3. Documentation:
 - a. Proposed methods of installation and plans for placing repair materials taking into account sun, heat, wind, ambient air temperature or other limitations of facilities that will prevent proper finishing or curing.
4. Qualifications per "Quality Assurance" section.

1.5 QUALIFICATIONS

- A. The Contractor shall furnish the name of all subcontractors which it proposes to use for this work including necessary evidence and/or experience records to ascertain their qualifications in the application of proprietary repair products specified herein.
- B. Approved applicator qualifications shall include:
 1. Experience in applying epoxy adhesive and polymer-modified and cement-based products similar to those specified in this Section.
 2. The subcontractor/applicator shall submit a list of five previous jobs that successfully utilized the specified repair system.
 3. A letter from the manufacturer of the specified materials, on the manufacturer's letterhead, signed by an officer of the company, stating that the subcontractor/applicator has been trained in the proper techniques for the preparation of the surface, and proper methods for mixing, placing, curing, caring and injection techniques of the manufacturer's products.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. All materials shall be delivered in original, unopened containers with the manufacturer's name, label, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers or approved equal are acceptable:

EXISTING SPALL REPAIR

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DAM ACCESS IMPROVEMENTS AND INSTALLATION PLANS

1. Sika Corporation.
 2. Euclid Chemical Company.
 3. BASF Chemical Company.
 4. Five Star Products.
 5. Or equivalent.
- B. Although this specification is written around one manufacturer, any equivalent or “or equal” product produced by one of above companies may be submitted for approval.
- C. The manufacturer shall certify the compatibility of all products and the equivalence to the specified products.

2.2 MATERIALS

- A. Polymer-modified Portland cement mortar:
1. The materials shall be non-combustible, both before and after cure.
 2. The materials shall be supplied in a factory-proportioned unit.
 3. The polymer-modified, portland cement mortar must be placeable from 1/8” to 1-1/2” in depth per lift for vertical applications and 1/8” to 1” in depth for overhead applications.
 4. The material must contain silica fume.
- B. Acceptable products for intended repair systems SikaTop 123 Plus with Sika Armatec 110 Epocem or equal for reinforcement corrosion protection and priming.
1. All exposed reinforcing encountered during repair work shall receive repair for protection of reinforcement prior to application of repair system(s) using Sika Armatec 110 Epocem or equal.
 2. Products of other listed manufacturers are acceptable for use providing the product is of the same generic material, requires comparable surface preparation, has comparable application requirements, satisfies the intended repair function, meets or exceeds the quality of the specified product, provides the same finish and color options and will withstand the atmospheric conditions of the location where it is to be applied.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means from the area to prevent further buildup. Mechanically prepare concrete substrate to obtain a surface profile of +/- 1/16” (CSP 5 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 1/8” in depth.

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- B. Where reinforcing steel with active corrosion is encountered, as directed by the Engineer, sandblast the steel to a white metal finish to remove all contaminants and rust. Where corrosion has occurred due to the presence of chlorides, the steel shall be high pressure washed after mechanical cleaning. Prime steel with 2 coats of Sika Armatec 110 EpoCem or approved equal.

3.2 INSTALLATION

- A. Prepare repair area as shown on plans and pretreat with moisture for 12 hours to assure an SSD (Saturated Surface Dry) surface.
- B. Mix, place and cure polymer modified repair mortar as recommended by the manufacturer to completely fill entire volume of spall, except that the use of sand or other filler material will not be allowed.
- C. Finish and surface elevation shall match that of existing concrete.

3.3 FIELD QUALITY CONTROL

- A. The Contractor shall exercise care in preparation of cracks and installation of materials as required by the drawings, specifications and material manufacturer's recommendations. Improperly installed or defective material will be rejected and shall be promptly removed and replaced with new material as directed by the Engineer, per the drawings, specifications, and manufacturer's recommendations. Removal and replacement of rejected material shall be performed by the Contractor at the Contractor's expense.

END OF SECTION

EXISTING SPALL REPAIR

HODGES NEAR TERM REPAIRS IMPROVEMENT PROJECT
ACCESS IMPROVEMENTS AND INSTALLATION PLANS

DIVISION 03 - CONCRETE

SECTION 03 64 24

EXISTING CRACK REPAIR

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers the following contract items:
 - 1. Crack Repair at the various locations of Lake Hodges Dam which includes crack preparation, epoxy adhesive, and polymer modified repair mortar placed in the work, as directed.

1.2 RELATED SECTIONS

- A. City of San Diego Whitebook, City of San Diego General Contract Terms and Provisions, and Drawings apply to this section
 - 1. Section 03931 – Existing Spall Repair.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to the following:
 - 1. American Concrete Institute (ACI):
 - a. ACI unless otherwise specified, ACI requirements govern the performance of the work of this section.
 - b. ACI 503.7, Specification for Crack Repair by Epoxy Injection
 - 2. ASTM International (ASTM):
 - a. ASTM C881 – Standard Specification for Epoxy-Resin Base Bonding Systems for Concrete.
 - b. ASTM C882 – Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete by Slant Shear.

1.4 SUBMITTALS

- A. Action Submittals:
 - 1. Epoxy Adhesive Data:
 - a. Method of product and substrate preparation, and application.
 - 2. Polymer Modified Repair Mortar Data:
 - a. Method of product and substrate preparation, and application.
- B. Informational Submittals:

EXISTING CRACK REPAIR

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1. Epoxy Adhesive Data:
 - a. Manufacturer's certification of conformance with these specifications.
2. Polymer modified Repair Mortar Data:
 - a. Manufacturer's certification of conformance with these specifications.

1.5 QUALIFICATIONS

- A. The Contractor shall furnish the name of all subcontractors which it proposes to use for this work including necessary evidence and/or experience records to ascertain their qualifications in the application of proprietary repair products specified herein.
- B. Approved applicator qualifications shall include:
 1. Experience in applying epoxy adhesive and polymer-modified and cement-based products similar to those specified in this Section.
 2. The subcontractor/applicator shall submit a list of five previous jobs that successfully utilized the specified repair system.
 3. A letter from the manufacturer of the specified materials, on the manufacturer's letterhead, signed by an officer of the company, stating that the subcontractor/applicator has been trained in the proper techniques for the preparation of the surface, and proper methods for mixing, placing, curing, caring and injection techniques of the manufacturer's products.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Prepackaged epoxy adhesive and polymer modified repair mortar systems shall be stored and handled as recommended by the manufacturer.

PART 2 - PRODUCTS

- A. Epoxy Adhesive:
 1. Sikadur 35 Hi-Mod LV or equal; Epoxy adhesive shall be a two-component, moisture-tolerant, high strength, and low-viscosity conforming to ASTM C881 for a Type IV, Grade 1, Class B or C epoxy system.
 2. Epoxy adhesive shall attain a minimum bond strength of 3,000 psi tested by ASTM C 882.
- B. Polymer Modified Repair Mortar:
 1. Sikatop 123 Plus or equal;

2.2 ACCESSORIES

- A. The Contractor shall furnish and install all miscellaneous hardware and ancillary items required for a complete installation.

EXISTING CRACK REPAIR

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PART 3 - EXECUTION

3.1 GENERAL

- A. Crack repair will be done only under the direction of the Engineer, in accordance with ACI 503.7,

3.2 CRACK REPAIR (1/4 INCH OR LESS IN WIDTH)

A. Preparation:

1. Debris due to prepped surfaces shall be removed completely from the site location.
2. Clean cracks of all loose matter, dirt, laitance, oil, grease, salt, and other contaminants.
3. Clean cracks in accordance with epoxy adhesive manufacturer's instructions.
4. Clean surfaces adjacent to cracks from dirt, dust, grease, oil, efflorescence, and other foreign matter detrimental to bond of epoxy adhesive surface seal system.
5. Do not use acids and corrosives for cleaning.

B. Application:

1. Sealing:

- a. Apply surface seal adhesive in accordance with manufacturer's instructions to designated crack face prior to adhesive injection.
- b. Seal surface of crack to prevent escape of injection adhesive.
- c. Position injection ports to assure full depth injection of crack or joint.

2. Entry Ports:

a. Adhesive Injection:

- 1) Start injection into each crack at lowest elevation entry port.
- 2) Continue injection at first port until adhesive begins to flow out of port at next highest elevation.
- 3) Plug first port and start injection at second port until adhesive flows from next port.
- 4) Inject entire crack with same sequence.
- 5) Indentations or protrusions caused by placement of entry ports are not acceptable.

EXISTING CRACK REPAIR

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ACCESS IMPROVEMENTS AND INSTALLATION PLANS

- b. Finishing:
 - 1) Cure epoxy adhesive after cracks have been completely filled to allow surface seal removal without draining or runback of epoxy material from cracks.
 - 2) Remove surface seal from cured injection adhesive.
 - 3) Finish crack face flush with adjacent concrete.
 - 4) Indentations or protrusions caused by placement of entry ports not acceptable.
 - 5) Remove surface seal material and injection adhesive runs and spills from concrete surfaces.

3.3 CRACK REPAIR (GREATER THAN 1/4 INCH IN WIDTH)

- A. Preparation:
 - 1. Debris due to prepped surface shall be removed completely from the site location.
 - 2. Substrate shall be clean, sound and laitance-free prior to repairing.
 - 3. If the width of the crack at the end is less than ¼ inch, perform epoxy injection prior to mortar surface repair.
 - 4. Pre-soak the substrate to provide saturated surface dry (SSD) condition prior to applying repair material.
- B. Application:
 - 1. Contractor shall follow the manufacturer's guidance for mixing the repair mortar.
- C. Placement Procedure:
 - 1. Contractor shall follow the manufacturer's recommendation for placement and curing of the repair product.
- D. Cleaning:
 - 1. The uncured polymer-modified Portland cement mortar can be cleaned from tools with water. The cured polymer -modified Portland cement mortar can only be removed mechanically.
 - 2. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

3.4 FIELD QUALITY CONTROL

- A. The Contractor shall exercise care in preparation of cracks and installation of materials as required by the drawings, specifications and material manufacturer's recommendations. Improperly installed or defective material will be rejected and shall be promptly removed and replaced with new material as directed by the Engineer, per the drawings, specifications, and manufacturer's recommendations.

EXISTING CRACK REPAIR

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Removal and replacement of rejected material shall be performed by the Contractor at the Contractor's expense.

END OF SECTION

HODGES NEAR TERM REPAIRS IMPROVEMENT PROJECT
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DIVISION 05 METALS

SECTION 05 50 01

METAL FABRICATED WEIR

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, equipment, and incidentals required for, and perform all operations in connection with, the installation of the Stainless-steel HS/H/HL Flumes in accordance with the lines, grades, design and dimensions shown on the Contract Drawings and as specified herein.

1.2 SUBMITTALS

- A. The Contractor shall submit all preconstruction data to the Engineer in sufficient time for completion of favorable review at least two weeks prior to the start of the Work unless otherwise indicated herein. Work shall not begin until the pre-construction submittals have been favorably reviewed by the Engineer. Any delays due to failure to timely submit or resubmit shall be the Contractor's responsibility.
- B. Units
1. All submittals, specifications, drawings, brochures, installation instructions, descriptive literature, etc. shall have all units of measurement in both Imperial and SI units.
- C. Action Submittals:
1. Drawings
 - a. Project specific drawings, showing:
 - 1) Critical dimensions.
 - 2) Joints, connections, fasteners.
 - 3) Sizes, spacing, and locations of structural members, ribs, anchoring clips, and dimensional bracing.
 - 4) Materials and thicknesses of construction.
 - 5) Minimum and maximum flow rates.
 - b. Generic layouts or check marked brochures shall be rejected without review.
 2. Specifications
 - a. Project specific specifications.
 - b. Generic or check marked specifications shall be rejected without review.

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3. Discharge Tables
 - a. Level-to-flow discharge tables, showing:
 - 1) Flow equations.
 - 2) Submergence transition, where published.
 - 3) Accuracy, where published.
 - 4) Plan view layout showing critical dimensions and primary point of measurement (Ha).
 - 5) Discharge table source.
4. Receiving, Handling, and Storage Instructions
5. Installation Instructions
6. Operation and Maintenance Instructions
7. Product Warranty

1.3 RECEIVING, STORAGE, AND HANDLING

A. Receiving

1. Inspect for damage
 - a. All parts should be inspected upon delivery to the site, noting any missing items or visible damage. Verify that the interior flow surfaces have not been damaged or otherwise marked during transit. Flanges, anchor clips, and dimensional bracing should also be inspected.
 - b. For smaller boxed items make sure to verify that all packaging seals are in place and that there is no visible damage to the packaging.
2. Investigate for order corrections and count
 - a. Once the order has been received review the packing list against what has been received. Should any items not appear to be present, or the configuration of the items does not match the description on the packing list, contact 'Openchannelflow' or approved equal manufacturer immediately. Small connection hardware (nuts, bolts, etc.) not attached to the flumes ship in individual boxes – with those contents clearly marked. Special care should be taken to secure these and any other small items that can be misplaced on a job site.

B. Handling:

1. Flumes are specialty items and are fabricated to strict dimensional tolerances. While rugged and designed for a long service life, flumes must be handled with care. Flow surfaces are particularly important and in handling flumes this should always be kept in mind.
2. When cranes, hoists, and other machinery are used to lift flumes or flume sections, spreader bars and lifting straps should always be used. When performing any overhead lift, all lifting eyes must be used in conjunction

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with good rigging practices. Rigging and lifting sequences and schedules of equipment are solely the responsibility of the installing party.

3. Chains, ropes, and the like should never be used to move or position any flume as they may serrate or abrade surface galvanization.

C. Storage:

1. Flumes not intended for immediate installation may be stored until the site is ready for their installation.
2. Flumes shall only be stored in a location that is clean, level, and protected from construction traffic.
3. When shipped on pallets, flumes should be left on those pallets until such time as they are needed. Otherwise, flumes should be stored upside down so that the interior flow surfaces are protected. Flumes should then be covered as an additional protection for the flow surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Supply H flumes as manufactured by:

1. Acceptable Manufacturers:
 - a. Openchannelflow' (phone: 855.481.1118 / fax: 855.3316475 / www.openchannelflow.com)
Locally represented by:
Southland Water Technologies LLC (phone: 800.795.5231 / fax: 760.431.7397 / www.southlandwater.com)
2. Or equivalent.

2.2 SUBSTITUTIONS

- A. Manufacturers wishing consideration as acceptable substitutes must follow the steps outlined below.
- B. Include a copy of this specification section with all applicable plan sheets / details, addendum updates, and all referenced / applicable sections.
- C. Each paragraph must be check marked to indicate complete compliance with the specification or clearly marked to indicate a request for deviation from the specification requirements.
 1. Use check marks (✓) to denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated and therefore requested, underline each deviation and denote by a number in the margin to the right of the identified paragraph.

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2. The remaining portions of the paragraph not underlined will signify compliance on the part of the Manufacturer with the specifications.
 3. Include a detailed, written justification for each numbered deviation.
 4. Failure to comply with the above is sufficient cause to summarily reject the entire request for substitution.
- D. Requests for substitution must be made in writing and be received by the engineer's office a minimum of no later than five (5) after the issuance of the Apparent Low Bidder.
- E. Manufacturers not pre-approved shall not be given consideration.
- F. Manufacturers requesting pre-approval must have been regularly engaged in the application, design, and manufacturing of open channel primary devices. Manufacturing alone shall not be deemed sufficient. The majority of the Manufacturer's operations must consist of the control, conditioning, or measurement of open channel flow.
- G. In addition, the request for substitution must provide information regarding comparable North American installations, including:
1. Owner's name, location, and contact information.
 2. Application and performance specifications.
 3. Date of installation.
 4. Operational history.
 5. Equipment arrangement, including configuration and materials of construction.

2.3 WARRANTY

- A. Flumes shall be warranted to be free of defects in workmanship and materials for five (5) years with a completed warranty registration.
- B. The warranty period shall begin from the date of shipment.

2.4 SYSTEM DESCRIPTION

- A. Configuration
1. Size/Style: Flume and box size/style per plan details.
 2. Construction:
 - a. One-piece construction.
 - b. Multi-piece construction, with connection hardware.
- B. Materials of Construction
1. Steel:
 - a. Galvanized steel.
 - b. Cold galvanization applied to all welds and sharp bends.

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2. Stainless-steel:
 - a. T-316L.
3. Gauge thickness:
 - a. 16 gauge.
 - b. 12 gauge.
 - c. 1/4-inch [6.35 mm] (as required).
4. Dimensional bracing:
 - a. Welded bracing capable of providing sufficient strength and structural support to resist the stresses of shipping and installation (cribbing of the flume is still required during installation).
5. Flanges:
 - a. Integral top and end flanges:
 - b. 2-inches [5.08 cm] wide (minimum).
6. Stiffening ribs:
 - a. Welded knee exterior stiffening ribs to provide sufficient strength and rigidity to allow the flume to be self-supporting and capable of holding the rated maximum head of water without visible distortion
7. Anchoring clips:
 - a. Anchor clips welded to the exterior of the flume to aid in securing the flume during installation.
 - b. Pre-drilled with Ø5/8-inch [1.59 cm] hole.
 - c. Installed on all flumes greater than 0.5-foot.

2.5 ACCESSORIES

- A. Markings
 1. Stencil cut stainless steel dual scale gradated in cm, 1/10-foot, and 1/100-foot increments.
- B. Customized Inlet (see plan details)
 1. Stainless-steel mounting tabs at the bottom to secure to concrete pad

2.6 FIELD ASSISTANCE

- A. Qualified factory representative shall provide on-site assistance, consisting of:
 1. Installation observation aligning with contractor phased construction schedule and not to exceed 3 days.
 2. 1 day of operator training.

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PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that the flume dimensions are correct and that the site conditions are suitable for installing the flume.
- B. Flumes supplied with bolt-on approach sections must remain sealed between the joints. Where required, apply one or two continuous beads of silicone on all seating surfaces before proceeding with the installation.

3.2 INSTALLATION

- A. The wide section of the flume (when viewed from above) shall be set upstream – with the narrow V-shaped section downstream.
- B. The floor of the flume (crest) must be installed level from front-to-back and from side-to-side (using a level on the crest – not the top – of the flume).
- C. The inlet of the flume (or the approach section) shall be set at or above the invert of the channel / pipe.
- D. The outlet of the flume must be sufficiently higher than the invert of the outlet channel / pipe to ensure unimpeded free-fall out of the flume. HS / H / HL flumes have little resistance to submergence and free-fall conditions are critical.
- E. The internal dimensions of the flume are critical to its proper operation. The flume must be braced internally (plywood and lumber are typically used) during installation to ensure that distortion does not occur. The dimensional bracing on the top of the flume is provided to ensure dimensional accuracy. The bracing shall be left on the flume until the installation has been completed. For installations where the flume is set in concrete, the bracing may be removed once the installation has been completed and verified. For installations where the flume is freestanding or otherwise not set in concrete, the bracing shall be left in place.
- F. Flumes supplied with approach sections may also have inlet bulkheads mounting pipe stubs – which may be supplied with flexible couplings and stainless-steel bands. Considerable force must be exerted by the coupling sealing surfaces during installation, if the coupling installs with little effort or appears loose, stop and contact the coupling manufacturer.
- G. Larger flumes may be placed on piers (poured perpendicular to the flow stream) or concrete blocks to allow sufficient access during installation.
- H. Key the flume into the concrete by securing the anchoring clips on the sides of the flume to rebar with wire. The anchoring clips are not intended to prevent the flume from floating or shifting during installation.
- I. Flumes may be lagged into concrete with stainless-steel anchors. Sealing can be neoprene gaskets or bentonite.
- J. The flume shall be weighted as well as lined and braced internally to prevent flotation and / or distortion during installation. Floor distortion is a particular

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concern on flumes with large, flat bottoms. Make sure to take the necessary steps to avoid distortion before proceeding.

- K. Flowable grout shall be used to secure the flume in place. The initial lift should be slowly poured from one side of the flume so that the grout will flow under the flume to the other side, thereby helping to eliminate any void areas under the flume.
- L. The initial lift shall just cover the bottom of the flume and extend no more than 6-inches [15.24 cm] up the sidewalls. It (and all subsequent lifts) shall be allowed to set before proceeding. Pouring grout too much or too fast can deform the floor or sides of the flume, shift it out of alignment, or move it out of level. As the grouting continues, periodically check that the sidewalls have not distorted.
- M. Use vibrator sticks or chaining to ensure that no void or air pockets remain in the grout. Care must be taken, though, when using a vibrator stick, as excessive use can cause distortion of the flume.
- N. On larger flumes, grout one section between piers (or blocks) at a time, letting the grout set before proceeding to the next section. A grout hose may be required due to the distances involved. Flow grout from only one side of the flume.
- O. Once the initial pour has set, grout up the sidewalls in 6-10-inch [15.24-25.4 cm] lifts, letting each lift set before proceeding.
- P. The finished surface or shoulder of grout shall be even with the top of the flume and shall be sloped towards the flume so that any overflow will drain back into the flume.

3.3 ADJUST AND CLEAN

- A. Verify that the complete installation meets the criteria above and any additional criteria supplied by the Engineer.
- B. Clean the flow surfaces in accordance with the manufacturer's operation and maintenance instructions.
- C. Remove all trash and debris, leaving the site in a clean condition.

END OF SECTION

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DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

SECTION 23 05 13

**COMMON MOTOR REQUIREMENTS FOR HVAC AND PLUMBING
EQUIPMENT**

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers the following contract items:
1. Equipment furnished for HVAC systems.
 2. Single phase motors for HVAC equipment.

1.2 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to Document 00702 – Interpretation of the Contract, Paragraph 2:
1. American Bearing Manufacturers Association (ABMA).
 2. International Electrotechnical Commission (IEC).
 3. Institute of Electrical and Electronics Engineers, Inc. (IEEE).
 4. National Electrical Manufacturers Association (NEMA):
 - a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
 - b. ICS 6, Enclosures for Industrial Control and System.
 - c. MG 1, Motors and Generators.
 5. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC):
 6. Occupational Safety and Health Administration (OSHA):
 - a. 29 CFR 1910, Occupational Safety and Health Standards, referred to herein as OSHA Standards.
 7. Underwriters Laboratories, Inc. (UL):
 - a. 508A, Standard for Industrial Control Panels.
 - b. 698A, Standard for Industrial Control Panels Relating to Hazardous (Classified) Locations.

1.3 SUBMITTALS

- A. Action Submittals:

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1. Shop Drawings:
 - a. Equipment technical data including:
 - 1) Acknowledgement that products submitted meet requirements of standards referenced.
 - 2) Data sheets that include manufacturer's name and complete product model number.
 - a) Clearly identify all optional accessories that are included.
 - 3) Equipment identification utilizing numbering system and name utilized in Drawings.
 - 4) Equipment installation details:
 - a) Location of anchorage.
 - b) Type, size, and materials of construction of anchorage.
 - c) Anchorage setting templates.
 - d) Manufacturer's installation instructions.
 - 5) Equipment physical characteristics:
 - a) Dimensions (both horizontal and vertical).
 - b) Materials of construction and construction details.
 - c) Shipping and operating weight.
 - d) Duct and piping connection sizes, type and location.
 - 6) Equipment lining and coatings:
 - a) Equipment factory primer and paint data.
 - 7) Operating characteristics:
 - a) Utility requirements, natural gas, electric and other.
 - b) Performance curves.
 - c) Equipment capacity and efficiency.
 - 8) Electric motors:
 - a) Nameplate data.
 - b) Performance data.
 - 9) Control panels:
 - a) Panel layout and construction.
 - b) Control ladder diagrams.
 - c) Nameplate schedule.
 - d) Short Circuit Current Rating (SCCR) nameplate marking per NFPA 70, include any required calculations.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, refer to specific Electrical Specification Sections and specific material paragraphs below for acceptable manufacturers.
- B. Subject to compliance with the Contract Documents, the following manufacturers or approved equal are acceptable:
 - 1. Motors:
 - a. Baldor.
 - b. General Electric.
 - c. Hyundai Heavy Industries.
 - d. Marathon Electric.
 - e. Rockwell - Reliance.
 - f. Siemens.
 - g. TECO-Westinghouse.
 - h. Toshiba U.S.
 - i. U.S. Motors, Nidec Motor Corporation.
 - j. WEG.
 - 2. Or equivalent.

2.2 MANUFACTURED UNITS

- A. Equipment: Refer to individual equipment Specification Sections for product requirements.
- B. Electric Motors:
 - 1. Design for frequent starting duty equivalent to duty service required by driven equipment.
 - 2. Design for full voltage starting.
 - 3. Design bearing life based upon actual operating load conditions imposed by driven equipment.
 - 4. Size for altitude of Project.
 - 5. Furnish with stainless steel nameplates which include all data required by NFPA 70 (NEC), Article 430.
 - 6. Use of manufacturer's standard motor will be permitted on integrally constructed motor driven equipment specified by model number in which a redesign of the complete unit would be required in order to provide a motor with features specified.

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7. AC electric motors 1/3 to 1 HP:
 - a. Single or 3 PH, 60 Hz, designed for the supply voltage shown on the Drawings.
 - b. Permanently lubricated sealed bearings conforming to ABMA standards.
 - 1) For single phase motors, provide built-in manual reset thermal protector or integrally mounted manual motor starter with thermal overload element.
 8. Severe duty motor to have the following minimum features:
 - a. All cast iron construction.
 - b. Gasketed conduit box.
 - c. Epoxy finish for corrosion protection.
 - d. Hydrosopic varnish on windings for corrosion protection.
 - e. Drain plug and breather.
- C. NEMA Design Squirrel Cage Induction Motors:
1. Provide motors designed and applied in compliance with NEMA and IEEE for the specific duty imposed by the driven equipment.
 2. Motors to meet NEMA MG 3 (NEMA Premium) efficiencies.
 3. Do not provide motors having a locked rotor kVA per HP exceeding the NEMA standard for the assigned NEMA code letter.
 4. Design motor insulation in accordance with NEMA standards for Class F insulation with Class B temperature rise above a 40 DEGC ambient.
 5. Design motors for continuous duty.
 6. Size motors having a 1.0 service factor so that nameplate HP is a minimum of 15% greater than the maximum HP requirements of the driven equipment over its entire operating range.
 - a. As an alternative, furnish motors with a 1.15 service factor and size so that nameplate HP is at least equal to the maximum HP requirements of the driven equipment over its entire operating range.
 7. Motor enclosure and winding insulation application:
 - a. The following shall apply unless modified by specific Specification Sections:
 8. Provide oversize conduit box complete with clamp type grounding terminals inside the conduit box.

2.3 ACCESSORIES

- A. Guards:

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1. Provide each piece of equipment having exposed moving parts with full length, easily removable guards, meeting OSHA requirements.
 2. Interior applications:
 - a. Construct from expanded galvanized steel rolled to conform to shaft or coupling surface.
 - b. Utilize non-flattened type 16 GA galvanized steel with nominal 1/2 IN spacing.
 - c. Connect to equipment frame with hot-dip galvanized bolts and wing nuts.
 3. Exterior applications:
 - a. Construct from 16 GA stainless steel or aluminum.
 - b. Construct to preclude entrance of rain, snow, or moisture.
 - c. Roll to conform to shaft or coupling surface.
 - d. Connect to equipment frame with stainless steel bolts and wing nuts.
- B. Data Plate:
1. Attach a stainless steel data plate to each piece of rotary or reciprocating equipment.
 2. Permanently stamp information on data plate including manufacturer's name, equipment operating parameters, serial number and speed.
- C. Lifting Eye Bolts or Lugs:
1. Provide on all equipment 50 LBS or greater.
 2. Provide on other equipment or products as specified in the narrow-scope Specification Sections.

2.4 FABRICATION

- A. Design, fabricate, and assemble equipment in accordance with modern engineering and shop practices.
- B. Manufacture individual parts to standard sizes and gages so that repair parts, furnished at any time, can be installed in field.
- C. Furnish like parts of duplicate units to be interchangeable.
- D. Ensure that equipment has not been in service at any time prior to delivery, except as required by tests.
- E. Furnish equipment which requires periodic internal inspection or adjustment with access panels which will not require disassembly of guards, dismantling of piping or equipment or similar major efforts.
 1. Quick opening but sound, securable access ports or windows shall be provided for inspection of chains, belts, or similar items.

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- F. Provide common, lipped base plate mounting for equipment and equipment motor where said mounting is a manufacturer's standard option.
- G. Machine the mounting feet of rotating equipment.
- H. Fabricate equipment which will be subject to Corrosive Environment in such a way as to avoid back to back placement of surfaces that can not be properly prepared and painted.
 - 1. When such back to back fabrication can not be avoided, provide continuous welds to seal such surfaces from contact with corrosive environment.
 - 2. Where continuous welds are not practical, after painting seal the back to back surfaces from the environment.
- I. Critical Speed:
 - 1. All rotating parts accurately machined and in as near perfect rotational balance as practicable.
 - 2. Excessive vibration is sufficient cause for equipment rejection.
 - 3. Ratio of all rotative speeds to critical speed of a unit or components: Greater than 1.2.
- J. Control Panels Engineered and Provided with the Equipment by the Manufacturer:
 - 1. Manufacturer's standard design for components and control logic unless specific requirements are specified in the specific equipment Specification Section.
 - 2. NEMA or IEC rated components are acceptable, whichever is used in the manufacturer's standard engineered design, unless specific requirements are required in the specific equipment Specification Section.
 - 3. Affix entire assembly with a UL 508A or UL 698A label "Listed Enclosed Industrial Control Panel" prior to delivery.
 - a. Control panels without an affixed UL 508A or UL 698A label shall be rejected.
 - 4. Provide equipment or control panels with Short Circuit Current Rating (SCCR) labeling as required by NFPA 70 and other applicable codes.
 - a. Determine the SCCR rating by one of the following methods:
 - 1) Method 1: SCCR rating meets or exceeds the available fault current of the source equipment when indicated on the Drawings.
 - 2) Method 2: SCCR rating meets or exceeds the source equipment's Amp Interrupting Current (AIC) rating as indicated on the Drawings.
 - 3) Method 3: SCCR rating meets or exceeds the calculated available short circuit current at the control panel.

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- b. The source equipment is the switchboard, panelboard, motor control center or similar equipment where the control panel circuit originates.
- c. For Method 3, provide calculations justifying the SCCR rating. Utilize source equipment available fault current or AIC rating as indicated on the Drawings.

2.5 SHOP OR FACTORY PAINT FINISHES

- A. Electrical Equipment:
 - 1. Provide factory-applied paint coating system(s) for all electrical equipment components.

2.6 SOURCE QUALITY CONTROL

- A. The Owner reserves the right to select and have tested any motor included within the project.
 - 1. If motor passes testing requirements, the Owner shall be responsible for any shipping and testing costs incurred.
 - 2. Costs shall be determined by current freight rates and manufacturer's published rates at the time of the test.
 - 3. If motor fails test, Supplier shall be responsible for all costs incurred.
 - 4. If two successive motors fail the test, the Owner has the right to reject any or all motors from that manufacturer.
 - 5. The Owner also reserves the right to witness any routine or complete tests at the Owner's expense.
 - 6. Notify the Owner a minimum of 14 days in advance of the testing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install equipment as shown on Drawings and in accordance with manufacturer's directions.
- B. Utilize templates for anchorage placement for slab-mounted equipment.
- C. Extend all non-accessible grease fittings using stainless steel tubing to a location which allows easy access of fittings from closest operating floor level.
- D. Equipment Base:
 - 1. Construct level in both directions.
 - 2. Take particular care at anchor bolt locations so these areas are flat and level.
- E. Machine Base:
 - 1. Mount machine base of rotating equipment on equipment base.

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- a. Level in both directions, using a machinist level, according to machined surfaces on base.
 2. Level machine base on equipment base and align couplings between driver and driven unit using steel blocks and shims.
 - a. Size blocks and shims to provide solid support at each mounting bolt location.
 - 1) Provide area size of blocks and shims approximately 1-1/2 times area support surface at each mounting bolt point.
 - b. Provide blocks and shims at each mounting bolt.
 - 1) Furnish blocks and shims that are square shape with "U" cut out to allow blocks and shims to be centered on mounting bolts.
 - c. After all leveling and alignment has been completed and before grouting, tighten mounting bolts to proper torque value.
- F. Couplings:
1. Align in the annular and parallel positions.
 - a. For equipment rotating at 1200 RPM or less, align both annular and parallel within 0.001 IN tolerance for couplings 4 IN size and smaller.
 - 1) Couplings larger than 4 IN size: Increase tolerance 0.0005 IN per inches of coupling diameter, i.e., allow 6 IN coupling 0.002 IN tolerance, and allow a 10 IN coupling 0.004 IN tolerance.
 - b. For equipment rotating at speeds greater than 1200 RPM allow both annular and parallel positions within a tolerance rate of 0.00025 IN per inch coupling diameter.
 2. If equipment is delivered as a mounted unit from factory, verify factory alignment on site after installation and realigned if necessary.
 3. Check surfaces for runout before attempting to trim or align units.
- G. Grouting:
1. After machine base has been shimmed, leveled onto equipment base, couplings aligned and mounting bolts tightened to correct torque value, place a dam or formwork around base to contain grouting between equipment base and equipment support pad.
 - a. Extend dam or formwork to cover leveling shims and blocks.
 - b. Do not use nuts below the machine base to level the unit.
 2. Saturate top of roughened concrete subbase with water before grouting.
 - a. Add grout until entire space under machine base is filled to the top of the base underside.

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- b. Puddle grout by working a stiff wire through the grout and vent holes to work grout in place and release any entrained air in the grout or base cavity.
3. When the grout has sufficiently hardened, remove dam or formwork and finish the exposed grout surface to fine, smooth surface.
 - a. Cover exposed grout surfaces with wet burlap and keep covering sufficiently wet to prevent too rapid evaporation of water from the grout.
 - b. When the grout has fully hardened (after a minimum of seven (7) days) tighten all anchor bolts to engage equipment base to grout, shims, and equipment support pad.
 - c. Recheck driver-driven unit for proper alignment.

3.2 INSTALLATION CHECKS

- A. For all equipment specifically required in detailed specifications, secure services of experienced, competent, and authorized representative(s) of equipment manufacturer to visit site of work and inspect, check, adjust and approve equipment installation.
 1. In each case, representative(s) shall be present during placement and start-up of equipment and as often as necessary to resolve any operational issues which may arise.
- B. Secure from equipment manufacturer's representative(s) a written report certifying that equipment:
 1. Has been properly installed and lubricated.
 2. Is in accurate alignment.
 3. Is free from any undue stress imposed by connecting piping or anchor bolts.
 4. Has been operated under full load conditions and that it operated satisfactorily.
 - a. Secure and deliver a field written report to Owner immediately prior to leaving jobsite.
- C. No separate payment shall be made for installation checks.
 1. All or any time expended during installation check does not qualify as Operation and Maintenance training or instruction time when specified.

3.3 WIRING CONNECTIONS AND TERMINATION

- A. Clean wires before installing lugs and connectors.
- B. Coat connection with oxidation eliminating compound for aluminum wire.
- C. Terminate motor circuit conductors with copper lugs bolted to motor leads.
- D. Tape stripped ends of conductors and associated connectors with electrical tape.

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- 1. Wrapping thickness shall be 150% of the conductor insulation thickness.
- E. Connections to carry full ampacity of conductors without temperature rise.
- F. Terminate spare conductors with electrical tape.

END OF SECTION

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DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

SECTION 23 34 00

HVAC - FANS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section covers the following contract items:

1. Heating, ventilating, and cooling equipment.

1.2 REFERENCES

A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to Document 00702 – Interpretation of the Contract, Paragraph 2:

1. Air Movement and Control Association (AMCA).
 - a. AMCA Publication 203 "Field Performance Measurement of Fan Systems".
 - b. ANSI/AMCA 210 "Laboratory Methods of Testing Fans for Aerodynamic Performance Rating".
2. Air Conditioning and Refrigeration Institute (ARI).
3. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE):
 - a. HVAC Applications Handbook, Chapter entitled "Sound and Vibration Control."
 - b. 20, Methods of Testing for Rating Remote Mechanical-Draft Air-Cooled Refrigerant Condensers.
 - c. 52.2, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.
4. Canadian Standards Association (CSA).
5. National Electrical Manufacturers Association (NEMA):
 - a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
6. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC).
7. National Roofing Contractors Association (NRCA).
8. Underwriters Laboratories, Inc. (UL):

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- a. 507, Standard for Electric Fans.

1.3 QUALITY ASSURANCE

- A. Gage thickness specified herein shall be manufacturer's standard gage for steel and Brown and Sharpe gage for non-ferrous metals.
- B. Corrosion protection of equipment to be as specified herein.

1.4 SUBMITTALS

A. Action Submittals:

1. Shop Drawings:

a. Product technical data including:

- 1) Acknowledgement that products submitted meet requirements of standards referenced.
- 2) Manufacturer's installation instructions.
- 3) Wiring diagrams.
- 4) Control diagrams.
- 5) Manufacturer's catalog cuts and technical data.
- 6) Corrosion-protection information.
- 7) Fan curves.
- 8) Sound data.
- 9) Vibration isolation.
- 10) Performance data on all equipment.

b. Certifications:

- 1) Provide certification of thickness of corrosion-protection coating.
 - 2) Fan systems have been tested in accordance with AMCA Standard 210 or 260, and are licensed to bear the AMCA Certified Ratings Seal.
- 2. Factory Performance test for any fan having a flow rate greater than 1,000 CFM and/or a total static pressure rating equal to or greater than 1.5 IN WC.
 - a. Pursuant to AMCA Publication 203 or 210 with no plus tolerances on Power and no minus tolerances on flow or pressure.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:

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1. Corrosion-protective coatings:
 - a. Heresite and Chemical Co.; "Heresite."
 - b. Aero-Marine Engineering, Inc.
2. In-line centrifugal fans - tube axial fans:
 - a. Loren Cook
 - b. Greenheck
 - c. Or Equal

2.2 GENERAL

- A. All Manufactured Units:
 1. Factory wired and assembled.
 2. Use fasteners made of same material as unit.
- B. All manufactured units shall be constructed with corrosion-resistant materials or have corrosion-resistant coating.
 1. Type:
 - a. Corrosion-resistant materials:
 - 1) Aluminum.
 - 2) Stainless steel.
 - b. Corrosion-resistant coating:
 - 1) Phenolic-based coating or Epoxy-based coating.
 - 2) 3 MIL minimum dry thickness, air-dried coating, for surfaces exposed to temperatures less than 150 DEGF.
 - 3) 5 MIL baked-on coating for heat transfer surfaces and surfaces exposed to temperatures greater than 150 DEGF.
 - 4) Factory applied.
 - 5) Provide factory certification of application.

2.3 MANUFACTURED UNITS

- A. In-Line Centrifugal Fans - Tube Axial Fans:
 1. AMCA certified Class I, II, or III.
 2. Non-overloading horsepower capability.
 3. Materials:
 - a. Wheel, impeller hub and blades: Aluminum or stainless steel.
 - b. Housing, innertube and belt well: Aluminum or stainless steel.
 - c. Inlet cone: Aluminum or stainless steel.

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- d. Driver shaft: Solid stainless steel.
4. Airfoil design blades.
 - a. All welded construction.
5. All welded housing, innertube and belt well.
6. Innertube construction:
 - a. Isolates bearings and drive from airstream.
 - b. Removable end covers.
7. Bearings:
 - a. Cast iron pillow blocks.
 - b. Concentric bearing locking collar for drive shafts 1 IN and larger.
 - 1) SKF "ConCentra."
 - 2) Dodge "D Lock."
 - c. Regreaseable.
 - d. 200,000 HR average life.
8. Motor:
 - a. See Specification Section 23 05 13.
 - b. Adjustable motor base.
9. Flanged inlet and outlet.
10. Accessories:
 - a. Cam type access door.
 - b. Ceramic felt shaft seal.
 - c. Extended grease links and fittings.
 - d. Refer to equipment schedule for additional requirements.
 - e. Provide ON/OFF wall switch as indicated.
11. Size and capacity as scheduled on Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with Specification Section 23 05 13.
- B. Refer to manufacturer's installation instructions for additional installation requirements.
- C. Install fixed pitched drive sheave after sheave has been sized based on accepted test and balance report.

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- D. Do not operate fans for any purpose until bearings lubricated and fan has been test run under observation
- E. Refer to structural plans for additional mounting details and requirements.

END OF SECTION

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DIVISION 26 - ELECTRICAL

SECTION 26 05 00

ELECTRICAL - BASIC REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers the following contract items:
1. Basic requirements for electrical systems

1.2 RELATED SECTIONS

- A. Related Specification Sections include but are not necessarily limited to:
1. Section 26 05 19 - Wire and Cable - 600 Volt and Below.
 2. Section 26 05 33 - Raceways and Boxes.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to Document 00702 – Interpretation of the Contract, Paragraph 2:
1. Aluminum Association (AA):
 - a. ADM, Aluminum Design Manual.
 2. American Institute of Steel Construction (AISC):
 - a. Steel Construction Manual.
 3. American National Standards Institute (ANSI).
 4. ASTM International (ASTM):
 - a. A36/A36M, Standard Specification for Carbon Structural Steel.
 - b. A123/A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - c. A153/A153M, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 5. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - a. C2, National Electrical Safety Code (NESC).
 6. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC).
 7. National Electrical Manufacturers Association (NEMA):

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8. Underwriters Laboratories, Inc. (UL).
- B. Products to be listed by a Nationally Recognized Testing Laboratory (NRTL) in accordance with applicable product standards.
 1. Applicable product standards including, but not limited to, ANSI, FM, IEEE, NEMA and UL.
 2. NRTL includes, but is not limited to, CSA Group Testing and Certification (CS), FM Approvals LLC (FM), Intertek Testing Services NA, Inc. (ETL), and Underwriters Laboratories, Inc. (UL).

1.4 DEFINITIONS

- A. For the purposes of providing materials and installing electrical work the following definitions shall be used.
 1. Non-architecturally finished interior area: Pump, chemical, mechanical, electrical rooms and other similar process type rooms.
 2. Highly corrosive and corrosive area: Areas identified on the Drawings where there is a varying degree of spillage or splashing of corrosive materials such as water, wastewater or chemical solutions; or chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes or chemical mixtures.
 3. Hazardous areas: Class I, II or III areas as defined in NFPA 70.
 4. Shop fabricated: Manufactured or assembled equipment for which a UL test procedure has not been established.

1.5 SUBMITTALS

- A. Action Submittals:
 1. Shop Drawings:
 - a. General requirements:
 - 1) Provide manufacturer's technical information on products to be used, including product descriptive bulletin.
 - 2) Include data sheets that include manufacturer's name and product model number.
 - a) Clearly identify all optional accessories.
 - 3) Acknowledgement that products are NRTL listed or are constructed utilizing NRTL recognized components.
 - 4) Manufacturer's delivery, storage, handling and installation instructions.
 - 5) Product installation details.
 - 6) Short Circuit Current Rating (SCCR) nameplate marking per NFPA 70, include any required calculations.

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- 7) See individual specification sections for any additional requirements.
- b. Fabrication and/or layout drawings:
 - 1) Concrete and reinforcing steel, per Division 03 requirements.
- B. Operation and Maintenance Submittals:
 - 1. See Specification Section 3-8, "SUBMITTALS" (the City of San Diego Whitebook) for Engineer's approval for:
 - a. The mechanics and administration of the submittal process.
 - b. The content process of Operation and Maintenance Manuals.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect nameplates on electrical equipment to prevent defacing.

1.7 AREA DESIGNATION

- A. Designation of an area will determine the NEMA rating of the electrical equipment enclosures, types of conduits and installation methods to be used in that area.
 - 1. Outdoor areas:
 - a. Wet.
 - b. Also, corrosive and/or hazardous when specifically designated on the Drawings or in the Specifications.
 - 2. Indoor areas:
 - a. Dry.
 - b. Also, wet, corrosive and/or hazardous when specifically designated on the Drawings or in the Specifications.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, refer to specific Electrical Specification Sections and specific material paragraphs below for acceptable manufacturers.
- B. Provide all components of a similar type by one (1) manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install and wire all equipment, including prepurchased equipment, and perform all tests necessary to assure conformance to the Drawings and Specification Sections and ensure that equipment is ready and safe for energization.

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- B. Install equipment in accordance with the requirements of:
 - 1. NFPA 70.
 - 2. IEEE C2.
 - 3. The manufacturer's instructions.
- C. In general, conduit routing is not shown on the Drawings.
 - 1. The Contractor is responsible for routing all conduits including those shown on one-line and control block diagrams and home runs shown on floor plans.
 - 2. Conduit routings and stub-up locations that are shown are approximate; exact routing to be as required for equipment furnished and field conditions.
- D. When complete branch circuiting is not shown on the Drawings:
 - 1. A homerun indicating panelboard name and circuit number will be shown and the circuit number will be shown adjacent to the additional devices (e.g., light fixture and receptacles) on the same circuit.
 - 2. The Contractor is to furnish and install all conduit and conductors required for proper operation of the circuit.
 - 3. The indicated home run conduit and conductor size shall be used for the entire branch circuit.
 - 4. See Specification Section 26 05 19 for combining multiple branch circuits in a common conduit.
- E. Do not use equipment that exceed dimensions or reduce clearances indicated on the Drawings or as required by the NFPA 70.
- F. Install equipment plumb, square and true with construction features and securely fastened.
- G. Install electrical equipment, including pull and junction boxes, minimum of 6 IN from process, gas, air and water piping and equipment.
- H. Install equipment so it is readily accessible for operation and maintenance, is not blocked or concealed and does not interfere with normal operation and maintenance requirements of other equipment.
- I. Device Mounting Schedule:
 - 1. Unless indicated otherwise on the Drawings, mounting heights are as indicated below:
 - a. Light switch (to center): 46 IN.
 - b. Receptacle in architecturally finished areas (to center): 18 IN.
 - c. Receptacle on exterior wall of building (to center): 18 IN.
 - d. Receptacle in non-architecturally finished areas (to center): 46 IN.
 - e. Safety switch (to center of operating handle): 54 IN.
 - f. Pushbutton or selector switch control station (to center): 46 IN.

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- g. Panelboard (to top): 72 IN.
- J. Avoid interference of electrical equipment operation and maintenance with structural members, building features and equipment of other trades.
 - 1. When it is necessary to adjust the intended location of electrical equipment, unless specifically dimensioned or detailed, the Contractor may make adjustments of up to 6 IN in equipment location with the Engineer's approval.
- K. Provide electrical equipment support system per the following area designations:
 - 1. Dry areas:
 - a. Galvanized system consisting of galvanized steel channels and fittings, nuts and hardware.
 - b. Field touch-up cut ends and scratches of galvanized components with the specified primer during the installation, before rust appears.
 - 2. Wet areas:
 - a. Galvanized system consisting of galvanized steel channels and fittings, nuts and hardware.
 - b. Field touch-up cut ends and scratches of galvanized components with the specified primer during the installation, before rust appears.
 - 3. Corrosive areas:
 - a. Aluminum system consisting of aluminum channels and fittings with stainless steel nuts and hardware.
 - 4. Highly corrosive areas:
 - a. PVC coated steel system consisting of PVC coated steel channels and fittings with stainless steel nuts and hardware.
- L. Provide all necessary anchoring devices and supports rated for the equipment load based on dimensions and weights verified from approved submittals, or as recommended by the manufacturer.
 - 1. Do not cut, or weld to, building structural members.
 - 2. Do not mount safety switches or other equipment to equipment enclosures, unless enclosure mounting surface is properly braced to accept mounting of external equipment.
- M. Provide non-metallic corrosion resistant spacers to maintain 1/4 IN separation between metallic equipment and/or metallic equipment supports and mounting surface in wet areas, on below grade walls and on walls of liquid containment or processing areas such as Basins, Clarifiers, Digesters, Reservoirs, etc.
- N. Do not place equipment fabricated from aluminum in direct contact with earth or concrete.
- O. Do not use materials that may cause the walls or roof of a building to discolor or rust.

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- P. Provide field markings and/or documentation of available short-circuit current (available fault current) and related information for equipment as required by the NFPA 70 and other applicable codes.
- Q. Provide equipment or control panels with Short Circuit Current Rating (SCCR) labeling as required by NFPA 70 and other applicable codes.
 - 1. Determine the SCCR rating by one of the following methods:
 - a. Method 1: SCCR rating meets or exceeds the available fault current of the source equipment when indicated on the Drawings.
 - b. Method 2: SCCR rating meets or exceeds the source equipment's Amp Interrupting Current (AIC) rating as indicated on the Drawings.
 - c. Method 3: SCCR rating meets or exceeds the calculated available short circuit current at the control panel.
 - 2. The source equipment is the switchboard, panelboard, or similar equipment where the equipment or control panel circuit originates.
 - 3. For Method 3, provide calculations justifying the SCCR rating. Utilize source equipment available fault current or AIC rating as indicated on the Drawings.

3.2 FIELD QUALITY CONTROL

- A. Verify exact rough-in location and dimensions for connection to electrified equipment, provided by others.
- B. Replace equipment and systems found inoperative or defective and re-test.
- C. The protective coating integrity of support structures and equipment enclosures shall be maintained.
 - 1. Repair galvanized components utilizing a zinc rich paint.
 - 2. Repair painted components utilizing touch up paint provided by or approved by the manufacturer.
 - 3. Repair PVC coated components utilizing a patching compound, of the same material as the coating, provided by the manufacturer of the component.
 - 4. Repair surfaces which will be inaccessible after installation prior to installation.
 - 5. See Specification Section 26 05 33 for requirements for conduits and associated accessories.
- D. Replace nameplates damaged during installation.

END OF SECTION

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DIVISION 26 - ELECTRICAL

SECTION 26 05 19

WIRE AND CABLE - 600 VOLT AND BELOW

PART 1 - GENERAL

1.1 SUMMARY

- A. This section covers the following contract items:
1. Material and installation requirements for:
 - a. Building wire.
 - b. Power cable.
 - c. Control cable.
 - d. Wire connectors.
 - e. Insulating tape.
 - f. Pulling lubricant.

1.2 RELATED SECTIONS

- A. Related Specification Sections include but are not necessarily limited to:
1. Section 26 05 00 - Electrical - Basic Requirements.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to Document 00702 – Interpretation of the Contract, Paragraph 2:
1. Insulated Cable Engineers Association (ICEA):
 - a. S-58-679, Standard for Control Cable Conductor Identification.
 2. National Electrical Manufacturers Association/Insulated Cable Engineers Association (NEMA/ICEA):
 - a. WC 57/S-73-532, Standard for Control Cables.
 - b. WC 70/S-95-658, Non-Shielded Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy.
 3. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC).
 - b. 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces.

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4. Underwriters Laboratories, Inc. (UL):
 - a. 44, Standard for Safety Thermoset-Insulated Wires and Cables.
 - b. 83, Standard for Safety Thermoplastic-Insulated Wires and Cables.
 - c. 467, Standard for Safety Grounding and Bonding Equipment.
 - d. 486A, Standard for Safety Wire Connectors and Soldering Lugs for use with Copper Conductors.
 - e. 486C, Standard for Safety Splicing Wire Connections.
 - f. 510, Standard for Safety Polyvinyl Chloride, Polyethylene and Rubber Insulating Tape.
 - g. 1277, Standard for Safety Electrical Power and Control Tray Cables with Optional Optical-Fiber Members.
 - h. 1581, Standard for Safety Reference Standard for Electrical Wires, Cables, and Flexible Cords.
 - i. 2250, Standard for Safety Instrumentation Tray Cable.Q

1.4 DEFINITIONS

- A. Cable: Multi-conductor, insulated, with outer sheath containing either building wire or instrumentation wire.
- B. Power Cable: Multi-conductor, insulated, with outer sheath containing building wire, No. 8 AWG and larger.
- C. Control Cable: Multi-conductor, insulated, with outer sheath containing building wires, No. 14, No. 12 or No. 10 AWG.
- D. Building Wire: Single conductor, insulated, with or without outer jacket depending upon type.

1.5 SUBMITTALS

- A. Action Submittals:
 1. Shop Drawings:
 - a. Product technical data:
 - 1) Provide submittal data for all products specified in PART 2 of this Specification Section except:
 - a) Wire connectors.
 - b) Insulating tape.
 - c) Cable lubricant.
 - 2) See Specification Section 26 05 00 for additional requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. See Specification Section 26 05 00.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers or approved equal are acceptable:
1. Building wire, power and control cable:
 - a. Aetna Insulated Wire.
 - b. Alphawire.
 - c. Cerrowire.
 - d. Encore Wire Corporation.
 - e. General Cable.
 - f. Okonite Company.
 - g. Southwire Company.
 - h. Or equivalent.
 2. Wire connectors:
 - a. Burndy Corporation.
 - b. Buchanan.
 - c. Ideal.
 - d. IlSCO.
 - e. 3M Co.
 - f. Teledyne Penn Union.
 - g. Thomas and Betts.
 - h. Phoenix Contact.
 - i. Or equivalent.
 3. Insulating and color coding tape:
 - a. 3M Co.
 - b. Plymouth Bishop Tapes.
 - c. Red Seal Electric Co.
 - d. Or equivalent.

2.2 MANUFACTURED UNITS

- A. Building Wire:
1. Conductor shall be copper with 600 V rated insulation.
 2. Conductors shall be stranded, except for conductors used in lighting and receptacle circuits which may be stranded or solid.

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3. Surface mark with manufacturer's name or trademark, conductor size, insulation type and UL label.
 4. Conform to NEMA/ICEA WC 70/S-95-658 and UL 83 for type THHN/THWN and THHN/THWN-2 insulation.
 5. Conform to NEMA/ICEA WC 70/S-95-658 and UL 44 for type XHHW-2 insulation.
- B. Power Cable:
1. Conductor shall be copper with 600 V rated insulation.
 2. Surface mark with manufacturer's name or trademark, conductor size, insulation type and UL label.
 3. Conform to NEMA/ICEA WC 70/S-95-658 and UL 83 and UL 1277 for type THHN/THWN insulation with an overall PVC jacket.
 4. Conform to NEMA/ICEA WC 70/S-95-658 and UL 44 and UL 1277 for type XHHW-2 insulation with an overall PVC jacket.
 5. Number of conductors as required, including a bare ground conductor.
 6. Individual conductor color coding:
 - a. ICEA S-58-679, Method 4.
 - b. See PART 3 of this Specification Section for additional requirements.
 7. Conform to NFPA 70 Type TC [and IEEE 1202 or CSA FT-4].
- C. Electrical Equipment Control Wire:
1. Conductor shall be copper with 600 V rated insulation.
 2. Conductors shall be stranded.
 3. Surface mark with manufacturer's name or trademark, conductor size, insulation type and UL label.
 4. Conform to UL 44 for Type SIS insulation.
 5. Conform to UL 83 for Type MTW insulation.
- D. Wire Connectors:
1. Twist/screw on type:
 - a. Insulated pressure or spring type solderless connector.
 - b. 600 V rated.
 - c. Ground conductors: Conform to UL 486C and/or UL 467 when required by local codes.
 - d. Phase and neutral conductors: Conform to UL 486C.
 2. Compression and mechanical screw type:
 - a. 600 V rated.

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- b. Ground conductors: Conform to UL 467.
- c. Phase and neutral conductors: Conform to UL 486A.
- 3. Terminal block type:
 - a. High density, screw-post barrier-type with white center marker strip.
 - b. 600 V and ampere rating as required, for power circuits.
 - c. 600 V, 20 ampere rated for control circuits.
 - d. 300 V, 15 ampere rated for instrumentation circuits.
 - e. Conform to NEMA ICS 4 and UL 486A.
- E. Insulating and Color Coding Tape:
 - 1. Pressure sensitive vinyl.
 - 2. Premium grade.
 - 3. Heat, cold, moisture, and sunlight resistant.
 - 4. Thickness, depending on use conditions: 7, 8.5, or 10 MIL.
 - 5. For cold weather or outdoor location, tape must also be all-weather.
 - 6. Color:
 - a. Insulating tape: Black.
 - b. Color coding tape: Fade-resistant color as specified herein.
 - 7. Comply with UL 510.
- F. Pulling Lubricant: Cable manufacturer's standard containing no petroleum or other products which will deteriorate insulation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Permitted Usage of Insulation Types:
 - 1. Type XHHW-2:
 - a. Building wire and power and control cable in architectural and non-architectural finished areas.
 - b. Building wire and power and control cable in conduit in outdoor areas and below grade.
 - c. Building wire and power and control cable in cable tray in outdoor areas.
 - 2. Type THHN/THWN and THHN/THWN-2:
 - a. Building wire and power and control cable No. 8 AWG and smaller in architectural and non-architectural finished areas.

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3. Type SIS and MTW:
 - a. For the wiring of control equipment within control panels and field wiring of control equipment within switchgear, switchboards, motor control centers.

B. Conductor Size Limitations:

1. Feeder and branch power conductors shall not be smaller than No. 12 AWG unless otherwise indicated on the Drawings.
2. Control conductors shall not be smaller than No. 14 AWG unless otherwise indicated on the Drawings.
3. Instrumentation conductors shall not be smaller than No. 18 AWG unless otherwise indicated on the Drawings.

C. Color Code All Wiring as Follows:

1. Building wire:

	240 V, 208 V, 240/120 V, 208/120 V	480 V, 480/277 V
Phase 1	Black	Brown
Phase 2	Red *	Orange
Phase 3	Blue	Yellow
Neutral	White	White or Gray
Ground	Green	Green

* Orange when it is a high leg of a 120/240 V Delta system.

- a. Conductors No. 6 AWG and smaller: Insulated phase, neutral and ground conductors shall be identified by a continuous colored outer finish along its entire length.
- b. Conductors larger than No. 6 AWG:
 - 1) Insulated phase and neutral conductors shall be identified by one of the following methods:
 - a) Continuous colored outer finish along its entire length.
 - b) 3 IN of colored tape applied at the termination.
 - 2) Insulated grounding conductor shall be identified by one of the following methods:
 - a) Continuous green outer finish along its entire length.
 - b) Stripping the insulation from the entire exposed length.
 - c) Using green tape to cover the entire exposed length.

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- 3) The color coding shall be applied at all accessible locations, including but not limited to: Junction and pull boxes, wireways, manholes and handholes.
2. Power cables ICEA S-58-679, Method 4 with:
 - a. Phase and neutral conductors identified with 3 IN of colored tape, per the Table herein, applied at the terminations.
 - b. Ground conductor: Bare.
 - D. Install all wiring in raceway unless otherwise indicated on the Drawings.
 - E. Feeder, branch, control and instrumentation circuits shall not be combined in a raceway, cable tray, junction or pull box, except as permitted in the following:
 1. Where specifically indicated on the Drawings.
 2. Where field conditions dictate and written permission is obtained from the Engineer.
 3. Multiple branch circuits for similar loads may be combined in a common raceway, such as multiple lighting circuits or multiple receptacle circuits or other 120Vac circuits. Do not combine lighting and receptacle circuits.
 - a. Do not combine control device circuits with lighting or receptacle circuits.
 - b. Contractor is responsible for making the required adjustments in conductor and raceway size, in accordance with all requirements of the NFPA 70, including but not limited to:
 - 1) Up sizing conductor size for required ampacity de-ratings for the number of current carrying conductors in the raceway.
 - 2) The neutral conductors may not be shared.
 - 3) Up sizing raceway size for the size and quantity of conductors.
 - F. Splices and terminations for the following circuit types shall be made in the indicated enclosure type using the indicated method.
 1. Feeder and branch power circuits:
 - a. Device outlet boxes:
 - 1) Twist/screw on type connectors.
 - b. Junction and pull boxes and wireways:
 - 1) Twist/screw on type connectors for use on No. 8 and smaller wire.
 - 2) Compression, mechanical screw or terminal block or terminal strip type connectors for use on No. 6 AWG and larger wire.
 - c. Motor terminal boxes:
 - 1) Twist/screw on type connectors for use on No. 10 AWG and smaller wire.

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- 2) Insulated mechanical screw type connectors for use on No. 8 AWG and larger wire.
 - d. Manholes or handholes:
 - 1) Twist/screw on type connectors pre-filled with epoxy for use on No. 8 AWG and smaller wire.
 - 2) Watertight compression or mechanical screw type connectors for use on No. 6 AWG and larger wire.
 2. Control circuits:
 - a. Junction and pull boxes: Terminal block type connector.
 - b. Manholes or handholes: Twist/screw on type connectors pre-filled with epoxy.
 - c. Control panels and motor control centers: Terminal block or strips provided within the equipment or field installed within the equipment by the Contractor.
 3. Non-insulated compression and mechanical screw type connectors shall be insulated with tape or hot or cold shrink type insulation to the insulation level of the conductors.
- G. Insulating Tape Usage:
1. For insulating connections of No. 8 AWG wire and smaller: 7 MIL vinyl tape.
 2. For insulating splices and taps of No. 6 AWG wire or larger: 10 MIL vinyl tape.
 3. For insulating connections made in cold weather or in outdoor locations: 8.5 MIL, all weather vinyl tape.
- H. Color Coding Tape Usage: For color coding of conductors.

END OF SECTION

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DIVISION 26 - ELECTRICAL

SECTION 26 05 26

GROUNDING AND BONDING

PART 1 - GENERAL

1.1 SUMMARY

- A. This section covers the following contract items:
1. Material and installation requirements for grounding and bonding system(s).

1.2 RELATED SECTIONS

- A. Related Specification Sections include but are not necessarily limited to:
1. Section 26 05 00 - Electrical - Basic Requirements.
 2. Section 26 05 19 - Wire and Cable - 600 Volt and Below.
 3. Section 26 05 33 - Raceways and Boxes.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to Document 00702 – Interpretation of the Contract, Paragraph 2:
1. ASTM International (ASTM):
 - a. B8, Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
 2. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - a. 837, Standard for Qualifying Permanent Connections Used in Substation Grounding.
 3. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC).
 4. Underwriters Laboratories, Inc. (UL):
 - a. 467, Grounding and Bonding Equipment.

1.4 QUALITY ASSURANCE

- A. Assure ground continuity is continuous throughout the entire Project.

1.5 SUBMITTALS

- A. Action Submittals:
1. Shop Drawings:

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- a. Product technical data.
 - 1) Provide submittal data for all products specified in PART 2 of this Specification Section except:
 - a) Grounding clamps, terminals and connectors.
 - b) Exothermic welding system.
 - 2) See Specification Section 26 05 00 for additional requirements

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers or approved equal are acceptable:
 - 1. Ground rods and bars and grounding clamps, connectors and terminals:
 - a. ERICO by Pentair.
 - b. Harger Lightning & Grounding.
 - c. Heary Bros. Lightning Protection Co. Inc..
 - d. Burndy by Hubbell.
 - e. Robbins Lightning, Inc.
 - f. Blackburn by Thomas & Betts.
 - g. Thompson Lightning Protection, Inc.
 - h. Or equivalent.
 - 2. Exothermic weld connections:
 - a. ERICO by Pentair - Cadweld.
 - b. Harger Lightning & Grounding - Ultraweld.
 - c. Burndy by Hubbell - Thermoweld.
 - d. FurseWELD by Thomas & Betts.
 - e. Or equivalent.

2.2 COMPONENTS

- A. Wire and Cable:
 - 1. Bare conductors: Soft drawn stranded copper meeting ASTM B8.
 - 2. Insulated conductors: Color coded green, per Specification Section 26 05 19.
- B. Conduit: As specified in Specification Section 26 05 33.
- C. Ground Bars:
 - 1. Solid copper:

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- a. 1/4 IN thick.
 - b. 2 or 4 IN wide.
 - c. 24 IN long minimum in main service entrance electrical rooms, 12 IN long elsewhere.
2. Predrilled grounding lug mounting holes.
 3. Stainless steel or galvanized steel mounting brackets.
 4. Insulated standoffs.
- D. Ground Rods:
1. 5/8 IN x 10 FT, 3/4 IN x 10 FT, or as indicated on the Drawings.
 2. Copper-clad:
 - a. 10 MIL minimum uniform coating of electrolytic copper molecularly bonded to a rigid steel core.
 - b. Corrosion resistant bond between the copper and steel.
 - c. Hard drawn for a scar-resistant surface.
- E. Grounding Clamps, Connectors and Terminals:
1. Mechanical type:
 - a. Standards: UL 467.
 - b. High copper alloy content.
 2. Compression type for interior locations:
 - a. Standards: UL 467.
 - b. High copper alloy content.
 - c. Non-reversible.
 - d. Terminals for connection to bus bars shall have two bolt holes.
 3. Compression type suitable for direct burial in earth or concrete:
 - a. Standards: UL 467, IEEE 837.
 - b. High copper alloy content.
 - c. Non-reversible.
 - d. Factory filled with oxide inhibiting compound.
- F. Exothermic Weld Connections:
1. Copper oxide reduction by aluminum process.
 2. Molds properly sized for each application.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Install products in accordance with manufacturer's instructions.
2. Size grounding conductors and bonding jumpers in accordance with NFPA 70, Article 250, except where larger sizes are indicated on the Drawings.
3. Remove paint, rust, or other non-conducting material from contact surfaces before making ground connections. After connection, apply manufacturers approved touch-up paint to protect metallic surface from corrosion.
 - a. Seal the sleeve interior to stop water penetration.
4. Do not splice grounding electrode conductors except at ground rods.
5. Install ground rods and grounding electrode conductors in undisturbed, firm soil.
 - a. Provide excavation required for installation of ground rods and conductors.
 - b. Use driving studs or other suitable means to prevent damage to threaded ends of sectional rods.
 - c. Unless otherwise specified, connect conductors to ground rods with compression type connectors or exothermic weld.
 - d. Provide sufficient slack in conductor to prevent conductor breakage during backfill or due to ground movement.
 - e. Backfill excavation completely, thoroughly tamping to provide good contact between backfill materials and ground rods and conductors.
6. Do not use exothermic welding if it will damage the structure the grounding conductor is being welded to.

B. Grounding Electrode System:

1. Provide a grounding electrode system in accordance with NFPA 70, Article 250 and as indicated on the Drawings.
 - a. All grounding electrode conductors terminate on a main ground bar located adjacent to the service entrance equipment.
2. Grounding electrode conductor terminations:
 - a. Ground bars mounted on wall: Use a two-hole compression type conductor terminal and bolt it to the ground bar with two bolts.
 - b. Ground bars in electrical equipment: Use compression type conductor terminal and bolt it to the ground bar or manufacture's provided mechanical type termination device.
 - c. Piping systems: Use mechanical type connections.

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- d. Building steel, below grade and encased in concrete: Use compression type connector or exothermic weld.
 - e. Building steel, above grade: Use a two-hole compression type conductor terminal and bolt to the steel with two bolts or exothermic weld.
 - f. Ground rod: Compression type or exothermic weld, unless otherwise specified.
- C. Raceway Bonding/Grounding:
- 1. Install all metallic raceway so that it is electrically continuous.
 - 2. Provide an equipment grounding conductor in all raceways with insulation identical to the phase conductors, unless otherwise indicated on the Drawings.
 - 3. NFPA 70 required grounding bushings shall be of the insulating type.
 - 4. Provide double locknuts at all panels.
 - 5. Bond all conduits, at entrance and exit of equipment, to the equipment ground bus or lug.
 - 6. Provide bonding jumpers if conduits are installed in concentric knockouts.
 - 7. Make all metallic raceway fittings and grounding clamps tight to ensure equipment grounding system will operate continuously at ground potential to provide low impedance current path for proper operation of overcurrent devices during possible ground fault conditions.
- D. Equipment Grounding:
- 1. Ground all utilization equipment with an equipment grounding conductor.
- E. Manhole and Handhole Grounding:
- 1. Provide a ground rod and ground bar, when indicated or as needed, in each manhole and handhole with exposed metal parts.
 - a. Expose a minimum of 4 IN of the rod above the floor for field connections to the rod.
 - 2. Connect all exposed metal parts (e.g., conduits and cable racks) to the ground rod.

3.2 FIELD QUALITY CONTROL

- A. Leave grounding system uncovered until observed by Owner.

END OF SECTION

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SECTION 26 05 33

RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SUMMARY

- A. This section covers the following contract items:
1. Material and installation requirements for:
 - a. Conduits.
 - b. Conduit fittings.
 - c. Conduit supports.
 - d. Wireways.
 - e. Outlet boxes.
 - f. Pull and junction boxes.

1.2 RELATED SECTIONS

- A. Related Specification Sections include but are not necessarily limited to:
1. Section 26 05 00 - Electrical - Basic Requirements.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to Document 00702 – Interpretation of the Contract, Paragraph 2:
1. Aluminum Association (AA).
 2. American Iron and Steel Institute (AISI).
 3. ASTM International (ASTM):
 - a. A123/A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - b. A153/A153M, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 - c. D2564, Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems.
 4. National Electrical Manufacturers Association (NEMA):
 - a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).

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5. National Electrical Manufacturers Association/American National Standards Institute (NEMA/ANSI):
 - a. C80.1, Electric Rigid Steel Conduit (ERSC).
 - b. C80.3, Steel Electrical Metallic Tubing (EMT).
 - c. OS 1, Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
6. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC).
7. Underwriters Laboratories, Inc. (UL):
 - a. 1, Standard for Flexible Metal Conduit.
 - b. 6, Electrical Rigid Metal Conduit - Steel.
 - c. 50, Enclosures for Electrical Equipment, Non-Environmental Considerations.
 - d. 360, Standard for Liquid-Tight Flexible Metal Conduit.
 - e. 467, Grounding and Bonding Equipment.
 - f. 514A, Metallic Outlet Boxes.
 - g. 514B, Conduit, Tubing, and Cable Fittings.
 - h. 797, Electrical Metallic Tubing - Steel.
 - i. 870, Standard for Wireways, Auxiliary Gutters, and Associated Fittings.
 - j. 1203, Standard for Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations.
 - k. 2420, Belowground Reinforced Thermosetting Resin Conduit (RTRC) and Fittings.
 - l. 2515, Aboveground Reinforced Thermosetting Resin Conduit (RTRC) and Fittings.

1.4 SUBMITTALS

A. Action Submittals:

1. Product technical data:
 - a. Provide submittal data for all products specified in PART 2 of this Specification Section except:
 - 1) Conduit fittings.
 - 2) Support systems.
 - b. See Specification Section 26 05 00 for additional requirements.
2. Fabrication and/or layout drawings:
 - a. Identify dimensional size of pull and junction boxes to be used.

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1.5 DELIVERY, STORAGE, AND HANDLING

- A. See Specification Section 26 05 00.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers or approved equal are acceptable:
1. Rigid metal conduits and electrical metallic tubing:
 - a. Allied Tube and Conduit.
 - b. Western Tube and Conduit Corporation.
 - c. Wheatland Tube.
 - d. Patriot Aluminum Products, LLC.
 - e. Or equivalent.
 2. Flexible conduit:
 - a. AFC Cable Systems.
 - b. Anamet, Inc.
 - c. Electri-Flex Company.
 - d. International Metal Hose Company.
 - e. Southwire Company, LLC.
 - f. Or equivalent
 3. Wireway:
 - a. Hoffman Engineering.
 - b. Wiegmann by Hubbell.
 - c. Square D by Schneider Electric.
 - d. Or equivalent.
 4. Conduit fittings and accessories:
 - a. Appleton by Emerson Electric Co.
 - b. Carlon by Thomas & Betts.
 - c. Cantex, Inc.
 - d. Crouse-Hinds by Eaton.
 - e. Killark by Hubbell.
 - f. Osburn Associates, Inc.
 - g. O-Z/Gedney by Emerson Electric Co.

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- h. Raco by Hubbell.
 - i. Steel City by Thomas & Betts.
 - j. Thomas & Betts.
 - k. Or equivalent.
5. Support systems:
- a. Unistrut by Atkore International, Inc.
 - b. B-Line by Eaton.
 - c. Kindorf by Thomas & Betts.
 - d. Minerallac Company.
 - e. CADDY by Pentair.
 - f. Superstrut by Thomas & Betts.
 - g. Or equivalent.
6. Outlet, pull and junction boxes:
- a. Appleton by Emerson Electric Co.
 - b. Crouse-Hinds by Eaton
 - c. Killark by Hubbell.
 - d. O-Z/Gedney by Emerson Electric Co.
 - e. Steel City by Thomas & Betts.
 - f. Raco by Hubbell
 - g. Bell by Hubbell.
 - h. Hoffman Engineering.
 - i. Wiegmann by Hubbell.
 - j. B-Line by Eaton.
 - k. Adalet.
 - l. RITTAL North America LLC.
 - m. Stahlin by Robroy Enclosures.
 - n. Or equivalent.

2.2 RIGID METAL CONDUITS

- A. Rigid Galvanized Steel Conduit (RGS):
- 1. Mild steel with continuous welded seam.
 - 2. Metallic zinc applied by hot-dip galvanizing or electro-galvanizing.
 - 3. Threads galvanized after cutting.

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4. Internal coating: Baked lacquer, varnish or enamel for a smooth surface.
5. Standards: NFPA 70 Type RMC, NEMA/ANSI C80.1, UL 6.

2.3 ELECTRICAL METALLIC TUBING (EMT)

- A. Mild steel with continuous welded seam.
- B. Metallic zinc applied by hot-dip galvanizing or electro-galvanizing.
- C. Internal coating: Baked lacquer, varnish, or enamel for a smooth surface.
- D. Standards: NFPA 70 Type EMT, NEMA/ANSI C80.3, UL 797.

2.4 FLEXIBLE CONDUIT

- A. Flexible Galvanized Steel Conduit (FLEX):
 1. Formed of continuous, spiral wound, hot-dip galvanized steel strip with successive convolutions securely interlocked.
 2. Standard: NFPA 70 Type FMC, UL 1.

2.5 WIREWAY

- A. General:
 1. Suitable for lay-in conductors.
 2. Designed for continuous grounding.
 3. Covers:
 4. Hinged or removable in accessible areas.
 5. Non-removable when passing through partitions.
 6. Finish: Rust inhibiting primer and manufacturer's standard paint inside and out except for stainless steel type.
 7. Standards: UL 870, NEMA 250.
- B. General Purpose (NEMA 1 rated) Wireway:
 1. 14 or 16 gage steel without knockouts.
 2. Cover: Solid, non-gasketed and held in place by captive screws.
- C. Raintight (NEMA 3R) Wiring Trough:
 1. 14 or 16 GA galvanized steel without knockouts.
 2. Cover: Non-gasketed and held in place by captive screws.
- D. Watertight (NEMA 4X rated) Wireway:
 1. 14 GA Type 304 or 316 stainless steel bodies and covers without knockouts and 10 GA stainless steel flanges.
 2. Cover: Fully gasketed and held in place with captive clamp type latches.
 3. Flanges: Fully gasketed and bolted.

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- E. Dusttight (NEMA 12 rated) Wireway:
 - 1. 14 GA steel bodies and covers without knockouts and 10 GA steel flanges.
 - 2. Cover: Fully gasketed and held in place with captive clamp type latches.
 - 3. Flanges: Fully gasketed and bolted.

2.6 CONDUIT FITTINGS AND ACCESSORIES

- A. Fittings for Use with RGS [and IMC] [and RAC]:
 - 1. General:
 - a. In hazardous locations listed for use in Class I, Groups C and D locations.
 - 2. Locknuts:
 - a. Threaded steel or malleable iron.
 - b. Gasketed or non-gasketed.
 - c. Grounding or non-grounding type.
 - 3. Bushings:
 - a. Threaded, insulated metallic.
 - b. Grounding or non-grounding type.
 - 4. Hubs: Threaded, insulated and gasketed metallic for raintight connection.
 - 5. Couplings:
 - a. Threaded straight type: Same material and finish as the conduit with which they are used on.
 - b. Threadless type: Gland compression or self-threading type, concrete tight.
 - 6. Unions: Threaded galvanized steel or zinc plated malleable iron.
 - 7. Conduit bodies (ells and tees):
 - a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.
 - b. Standard and mogul size.
 - c. Cover:
 - 1) Clip-on type with stainless steel screws.
 - 2) Gasketed or non-gasketed galvanized steel, zinc plated cast iron or cast copper free aluminum.
 - 8. Conduit bodies (round):
 - a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.

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- b. Cover: Threaded screw on type, gasketed, galvanized steel, zinc plated cast iron or cast copper free aluminum.
- 9. Sealing fittings:
 - a. Body: Zinc plated cast iron or cast copper free aluminum with threaded hubs.
 - b. Standard and mogul size.
 - c. With or without drain and breather.
 - d. Fiber and sealing compound: UL listed for use with the sealing fitting.
- 10. Hazardous location flexible coupling (HAZ-FLEX):
 - a. Liquid tight and arc resistant.
 - b. Electrically conductive so no bonding jumper is required.
 - c. Dry and wet areas:
 - 1) Bronze braided covering over flexible brass core.
 - 2) Bronze end fittings.
 - 3) Zinc-plated steel or malleable iron unions and nipples.
 - d. Corrosive areas:
 - 1) Stainless steel braided covering over flexible stainless steel core.
 - 2) Stainless steel end fittings.
 - 3) Aluminum unions and nipples.
- 11. Service entrance head:
 - a. Malleable iron, galvanized steel or copper free aluminum.
 - b. Insulated knockout cover for use with a variety of sizes and number of conductors.
- 12. Expansion couplings:
 - a. 2 IN nominal straight-line conduit movement in either direction.
 - b. Galvanized steel with insulated bushing.
 - c. Gasketed for wet locations.
 - d. Internally or externally grounded.
- 13. Expansion/deflection couplings:
 - a. 3/4 IN nominal straight-line conduit movement in either direction.
 - b. 30 DEG nominal deflection from the normal in all directions.
 - c. Metallic hubs, neoprene outer jacket and stainless steel jacket clamps.
 - d. Internally or externally grounded.
 - e. Watertight, raintight and concrete tight.

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14. Standards: UL 467, UL 514B, UL 1203.
- B. Fittings for Use with EMT:
 1. Connectors:
 - a. Straight, angle and offset types furnished with locknuts.
 - b. Zinc plated steel.
 - c. Insulated gland compression type.
 - d. Concrete and raintight.
 2. Couplings:
 - a. Zinc plated steel.
 - b. Gland compression type.
 - c. Concrete and raintight.
 3. Conduit bodies (ells and tees):
 - a. Body: Copper free aluminum with threaded hubs.
 - b. Standard and mogul size.
 - c. Cover:
 - 1) Screw down type with steel screws.
 - 2) Gasketed or non-gasketed galvanized steel or copper free aluminum.
 4. Standard: UL 514B.
- C. Fittings for Use with FLEX:
 1. Connector:
 - a. Zinc plated malleable iron.
 - b. Squeeze or clamp-type.
 2. Standard: UL 514B.
- D. Fittings for Use with FLEX-LT and FLEX-NM:
 1. Connector:
 - a. Straight or angle type.
 - b. Metal construction, insulated and gasketed.
 - c. Composed of locknut, grounding ferrule and gland compression nut.
 - d. Liquid tight.
 2. Standards: UL 467, UL 514B.
- E. Weather and Corrosion Protection Tape:
 1. PVC based tape, 10 mils thick.

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2. Protection against moisture, acids, alkalis, salts and sewage and suitable for direct bury.
3. Used with appropriate pipe primer.

2.7 ALL RACEWAY AND FITTINGS

A. Mark Products:

1. Identify the nominal trade size on the product.
2. Stamp with the name or trademark of the manufacturer.

2.8 OUTLET BOXES

A. Metallic Outlet Boxes:

1. Hot-dip galvanized steel.
2. Conduit knockouts and grounding pigtail.
3. Styles:
 - a. 2 IN x 3 IN rectangle.
 - b. 4 IN square.
 - c. 4 IN octagon.
 - d. Masonry/tile.
4. Accessories:
 - a. Flat blank cover plates.
 - b. Barriers.
 - c. Extension, plaster or tile rings.
 - d. Box supporting brackets in stud walls.
 - e. Adjustable bar hangers.
5. Standards: NEMA/ANSI OS 1, UL 514A.

B. Cast Outlet Boxes:

1. Zinc plated cast iron or die-cast copper free aluminum with manufacturer's standard finish.
2. Threaded hubs and grounding screw.
3. Styles:
 - a. "FS" or "FD".
 - b. "Bell".
 - c. Single or multiple gang and tandem.
 - d. "EDS" or "EFS" for hazardous locations.

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4. Accessories: 40 MIL PVC exterior coating and 2 MIL urethane interior coating.
 - a. Standards: UL 514A, UL 1203.
- C. See Specification Section 26 27 26 for wiring devices, wallplates and coverplates.

2.9 PULL AND JUNCTION BOXES

- A. NEMA 1 Rated:
 1. Body and cover: 14 GA minimum, galvanized steel or 14 GA minimum, steel finished with rust inhibiting primer and manufacturers standard paint inside and out.
 2. With or without concentric knockouts on four sides.
 3. Flat cover fastened with screws.
- B. NEMA 4 Rated:
 1. Body and cover: 14 GA steel finished with rust inhibiting primer and manufacturers standard paint inside and out.
 2. Seams continuously welded and ground smooth.
 3. No knockouts.
 4. External mounting flanges.
 5. Hinged or non-hinged cover held closed with stainless steel screws and clamps.
 6. Cover with oil resistant gasket.
- C. NEMA 7 and NEMA 9 Rated:
 1. Cast gray iron alloy or copper-free aluminum with manufacturer's standard finish.
 2. Drilled and tapped openings or tapered threaded hub.
 3. Cover bolted-down with stainless steel bolts or threaded cover with neoprene gasket.
 4. External mounting flanges.
 5. Grounding lug.
 6. Accessories: 40 MIL PVC exterior coating and 2 MIL urethane interior coating.

2.10 SUPPORT SYSTEMS

- A. Multi-conduit Surface or Trapeze Type Support and Pull or Junction Box Supports:
 1. Material requirements.
 - a. Galvanized steel: ASTM A123/A123M or ASTM A153/A153M.

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- b. Stainless steel: AISI Type 316.
 - c. PVC coat galvanized steel: ASTM A123/A123M or ASTM A153/A153M and 20 MIL PVC coating.
- B. Single Conduit and Outlet Box Support Fasteners:
- 1. Material requirements:
 - a. Zinc plated steel.
 - b. Stainless steel.
 - c. Malleable iron.
 - d. PVC coat malleable iron or steel: 20 MIL PVC coating.
 - e. Steel protected with zinc phosphate and oil finish.

2.11 OPENINGS AND PENETRATIONS IN WALLS AND FLOORS

- A. Sleeves, smoke and fire stop fitting through walls and floors.

PART 3 - EXECUTION

3.1 RACEWAY INSTALLATION - GENERAL

- A. Shall be in accordance with the requirements of:
 - 1. NFPA 70.
 - 2. Manufacturer instructions.
- B. Size of Raceways:
 - 1. Raceway sizes are shown on the Drawings, if not shown on the Drawings, then size in accordance with NFPA 70.
 - 2. Unless specifically indicated otherwise, the minimum raceway size shall be:
 - a. Conduit: 3/4 IN.
 - b. Wireway: 2-1/2 IN x 2-1/2 IN.
- C. Field Bending and Cutting of Conduits:
 - 1. Utilize tools and equipment recommended by the manufacturer of the conduit, designed for the purpose and the conduit material to make all field bends and cuts.
 - 2. Do not reduce the internal diameter of the conduit when making conduit bends.
 - 3. Prepare tools and equipment to prevent damage to the PVC coating.
 - 4. Degrease threads after threading and apply a zinc rich paint.
 - 5. Debur interior and exterior after cutting.

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- D. Male threads of conduit systems shall be coated with an electrically conductive anti-seize compound.
- E. The protective coating integrity of conduits, fittings, outlet, pull and junction boxes and accessories shall be maintained.
 - 1. Repair galvanized components utilizing a zinc rich paint.
 - 2. Repair painted components utilizing touch up paint provided by or approved by the manufacturer.
 - 3. Repair PVC coated components utilizing a patching compound, of the same material as the coating, provided by the manufacturer of the conduit; or a self-adhesive, highly conformable, cross-linked silicone composition strip, followed by a protective coating of vinyl tape.
 - a. Total nominal thickness: 40 MIL.
 - 4. Repair surfaces which will be inaccessible after installation prior to installation.
- F. Remove moisture and debris from conduit before wire is pulled into place.
 - 1. Pull mandrel with diameter nominally 1/4 IN smaller than the interior of the conduit, to remove obstructions.
 - 2. Swab conduit by pulling a clean, tight-fitting rag through the conduit.
 - 3. Tightly plug ends of conduit with tapered wood plugs or plastic inserts until wire is pulled.
- G. Only nylon or polyethylene rope shall be used to pull wire and cable in conduit systems.
- H. Where portions of a raceway are subject to different temperatures and where condensation is known to be a problem, as in cold storage areas of buildings or where passing from the interior to the exterior of a building, the raceway shall be sealed to prevent circulation of warm air to colder section of the raceway.
- I. Fill openings in walls, floors, and ceilings and finish flush with surface.

3.2 RACEWAY ROUTING

- A. Raceways shall be routed in the field unless otherwise indicated.
 - 1. Conduit and fittings shall be installed, as required, for a complete system that has a neat appearance and is in compliance with all applicable codes.
 - 2. Run in straight lines parallel to or at right angles to building lines.
 - 3. Do not route conduits:
 - a. Through areas of high ambient temperature or radiant heat.
 - b. In suspended concrete slabs.

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- c. In concrete members including slabs, slabs on grade, beams, walls, and columns unless specifically located and detailed on structural Drawings..
- 4. Locate sleeves or conduits penetrating floors, walls, and beams so as not to significantly impair the strength of the construction. Do not place conduit penetrations in columns.
- 5. Conduit shall not interfere with, or prevent access to, piping, valves, ductwork, or other equipment for operation, maintenance and repair.
- 6. Provide pull boxes or conduit bodies as needed so that there is a maximum of 360 DEG of bends in the conduit run or in long straight runs to limit pulling tensions.
- B. All conduits within a structure shall be installed exposed except as follows:
 - 1. As indicated on the Drawings.
 - 2. Concealed above gypsum wall board or acoustical tile suspended ceilings.
 - 3. Conduits in architecturally finished areas shall be concealed.
- C. Conduits shall be installed to eliminate moisture pockets.
 - 1. Where water cannot drain to openings, provide drain fittings in the low spots of the conduit run.
- D. Conduit shall not be routed on the exterior of structures except as specifically indicated on the Drawings.
- E. Where sufficient room exists within the housing of roof-mounted equipment, the conduit shall be stubbed up inside the housing.
- F. Provide all required openings in walls, floors, and ceilings for conduit penetration.

3.3 RACEWAY APPLICATIONS

- A. Permitted Raceway Types Per Wire or Cable Types:
 - 1. Power wire or cables: All raceway types.
 - 2. Control wire or cables: All raceway types.
 - 3. Motor leads from a VFD: RGS, RAC or shielded VFD cables in all other raceways.
- B. Permitted Raceway Types Per Area Designations:
 - 1. Dry areas:
 - a. RGS.
 - b. RAC.
 - 2. Wet areas:
 - a. RGS.
 - b. RAC.

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3. Corrosive areas:
 - a. PVC-RGS.
 - b. RAC.
4. NFPA 70 hazardous areas:
 - a. RGS.
 - b. RAC when required by other area designations.
- C. Permitted Raceway Types Per Routing Locations:
 1. Through floor penetrations:
 - a. PVC-RGS in areas designated as wet, corrosive or highly corrosive.
- D. FLEX conduits shall be installed for connections to light fixtures, HVAC equipment and other similar devices above the ceilings.
 1. The maximum length shall not exceed:
 - a. 6 FT to light fixtures.
 - b. 3 FT to all other equipment.
- E. FLEX-LT and FLEX-NM conduits shall be installed as the final conduit connection to light fixtures, dry type transformers, motors, electrically operated valves, instrumentation primary elements, and other electrical equipment that is liable to vibrate.
 1. The maximum length shall not exceed:
 - a. 6 FT to light fixtures.
 - b. 3 FT to motors.
 - c. 2 FT to all other equipment.
- F. HAZ-FLEX coupling shall be installed as the final conduit to motors, electrically operated valves, instrumentation primary elements and electrical equipment that is liable to vibrate.
 1. The maximum length shall not exceed:
 - a. 3 FT to motors.
 - b. 2 FT to all other equipment.
- G. NEMA 1 Rated Wireway:
 1. Surface mounted in electrical rooms.
 2. Surface mounted above removable ceilings tiles of an architecturally finished area.
- H. NEMA 3R Wiring Trough:
 1. Surface mounted in exterior locations.
- I. NEMA 4X Rated Wireway:

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1. Surface mounted in areas designated as wet and or corrosive.

3.4 CONDUIT FITTINGS AND ACCESSORIES

A. Conduit Seals:

1. Installed in conduit systems located in hazardous areas as required by the NFPA 70.
2. Fill plug and drain shall be accessible.
3. Pour the conduit seals in a two-step process.
 - a. Pour the seal and leave cover off.
 - b. After seal is dry, inspect for proper sealing, install cover and mark (for example, paint or permanent marker) as complete.

B. Install Expansion Fittings:

1. Where conduits are exposed to the sun and conduit run is greater than 200 FT.
2. Elsewhere as identified on the Drawings.

C. Install Expansion/Deflection Fittings:

1. Where conduits enter a structure.
 - a. Except electrical manholes and handholes.
 - b. Except where the ductbank is tied to the structure with rebar.
2. Where conduits span structural expansions joints.
3. Elsewhere as identified on the Drawings.

D. Threaded connections shall be made wrench-tight.

E. Conduit joints shall be watertight:

1. Where subjected to possible submersion.
2. In areas classified as wet.
3. Underground.

F. Terminate Conduits:

1. In metallic outlet boxes:
 - a. RGS and IMC and RAC:
 - 1) Conduit hub and locknut.
 - 2) Insulated bushing and two locknuts.
 - 3) Use grounding type locknut or bushing when required by NFPA 70.
 - b. EMT: Compression type connector and locknut.
2. In NEMA 1 rated enclosures:

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- a. RGS and IMC and RAC:
 - 1) Conduit hub and locknut.
 - 2) Insulated bushing and two locknuts.
 - 3) Use grounding type locknut or bushing when required by NFPA 70.
 - b. EMT: Compression type connector and locknut.
 - 3. In NEMA 12 rated enclosures:
 - a. Watertight, insulated and gasketed hub and locknut.
 - b. Use grounding type locknut or bushing when required by NFPA 70.
 - 4. In NEMA 4 and NEMA 4X rated enclosures:
 - a. Watertight, insulated and gasketed hub and locknut.
 - 5. In NEMA 7 and NEMA 9 rated enclosures:
 - a. Into an integral threaded hub.
 - 6. When stubbed up through the floor into floor mount equipment:
 - a. With an insulated grounding bushing on metallic conduits.
 - b. With end bells on nonmetallic conduits.
- G. Threadless couplings shall only be used to join new conduit to existing conduit when the existing conduit end is not threaded and it is not practical or possible to cut threads on the existing conduit with a pipe threader.

3.5 CONDUIT SUPPORT

- A. Permitted multi-conduit surface or trapeze type support system per area designations and conduit types:
 - 1. Dry or wet and/or hazardous areas:
 - a. Galvanized system consisting of: Galvanized steel channels and fittings, nuts and hardware and conduit clamps.
 - b. Aluminum system consisting of: Aluminum channels, fittings and conduit clamps with stainless steel nuts and hardware.
 - 2. Corrosive areas:
 - a. Aluminum system consisting of: Aluminum channels, fittings and conduit clamps with stainless steel nuts and hardware.
 - b. PVC coated steel system consisting of: PVC coated galvanized steel channels and fittings and conduit clamps with stainless steel nuts and hardware.
 - 3. Conduit type shall be compatible with the support system material.
 - a. Galvanized steel system may be used with RGS and IMC and EMT.

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- b. Stainless steel system may be used with RGS and IMC.
- B. Permitted single conduit support fasteners per area designations and conduit types:
 - 1. Architecturally finished areas:
 - a. Material: Zinc plated steel, or steel protected with zinc phosphate and oil finish.
 - b. Types of fasteners: Spring type hangers and clips, straps, hangers with bolts, clamps with bolts and bolt on beam clamps.
 - c. Provide anti-rattle conduit supports when conduits are routed through metal studs.
 - 2. Dry or wet and/or hazardous areas:
 - a. Material: Zinc plated steel, stainless steel and malleable iron.
 - b. Types of fasteners: Straps, hangers with bolts, clamps with bolts and bolt on beam clamps.
 - 3. Corrosive areas:
 - a. Material: Stainless steel and PVC coat malleable iron or steel.
 - b. Types of fasteners: Straps, hangers with bolts, clamps with bolts and bolt on beam clamps.
 - 4. Conduit type shall be compatible with the support fastener material.
 - a. Zinc plated steel, steel protected with zinc phosphate and oil finish and malleable iron fasteners may be used with RGS and EMT.
 - b. Stainless steel system may be used with RGS and and IMC.
- C. Conduit Support General Requirements:
 - 1. Maximum spacing between conduit supports per NFPA 70.
 - 2. Support conduit from the building structure.
 - 3. Do not support conduit from process, gas, air or water piping; or from other conduits.
 - 4. Provide hangers and brackets to limit the maximum uniform load on a single support to 25 LBS or to the maximum uniform load recommended by the manufacturer if the support is rated less than 25 LBS.
 - a. Do not exceed maximum concentrated load recommended by the manufacturer on any support.
 - b. Conduit hangers:
 - 1) Continuous threaded rods combined with struts or conduit clamps:
Do not use perforated strap hangers and iron bailing wire.
 - c. Do not use suspended ceiling support systems to support raceways.
 - d. Hangers in metal roof decks:

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- 1) Utilize fender washers.
 - 2) Not extend above top of ribs.
 - 3) Not interfere with vapor barrier, insulation, or roofing.
5. Conduit support system fasteners:
- a. Use sleeve-type expansion anchors as fasteners in masonry wall construction.
 - b. Do not use concrete nails and powder-driven fasteners.

3.6 OUTLET, PULL AND JUNCTION BOX INSTALLATION

A. General:

1. Install products in accordance with manufacturer's instructions.
2. See Specification Section 26 05 00 and the Drawings for area classifications.
3. Fill unused punched-out, tapped, or threaded hub openings with insert plugs.
4. Size boxes to accommodate quantity of conductors enclosed and quantity of conduits connected to the box.

B. Outlet Boxes:

1. Permitted uses of metallic outlet boxes:
 - a. Housing of wiring devices:
 - 1) Recessed in all stud framed walls and ceilings.
 - 2) Recessed in poured concrete, concrete block and brick walls of architecturally finished areas and exterior building walls.
 - b. Pull or junction box:
 - 1) Above gypsum wall board or acoustical tile ceilings.
 - 2) Above 10 FT in an architecturally finished area where there is no ceiling.
2. Permitted uses of cast outlet boxes:
 - a. Housing of wiring devices surface mounted in non-architecturally finished dry, wet, corrosive, highly corrosive and hazardous areas.
 - b. Pull and junction box surface mounted in non-architecturally finished dry, wet, corrosive and highly corrosive areas.
3. Mount device outlet boxes where indicated on the Drawings and at heights as scheduled in Specification Section 26 05 00.
4. Set device outlet boxes plumb and vertical to the floor.
5. Outlet boxes recessed in walls:
 - a. Install with appropriate stud wall support brackets or adjustable bar hangers so that they are flush with the face of the wall.

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- b. Locate in ungrouted cell of concrete block with bottom edge of box flush with bottom edge of block and flush with the face of the block.
 - 6. Place barriers between switches in boxes with 277 V switches on opposite phases.
 - 7. Back-to-back are not permitted.
- C. Pull and Junction Boxes:
- 1. Install pull or junction boxes in conduit runs where indicated or required to facilitate pulling of wires or making connections.
 - a. Make covers of boxes accessible.
 - 2. Permitted uses of NEMA 1 enclosure:
 - a. Pull or junction box surface mounted above removable ceiling tiles of an architecturally finished area.
 - 3. Permitted uses of NEMA 4 enclosure:
 - a. Pull or junction box surface mounted in areas designated as wet.
 - 4. Permitted uses of NEMA 4X metallic enclosure:
 - a. Pull or junction box surface mounted in areas designated as wet and/or corrosive.
 - 5. Permitted uses of NEMA 7 enclosure:
 - a. Pull or junction box surface mounted in areas designated as Class I hazardous.
 - 6. Permitted uses of NEMA 12 enclosure:
 - a. Pull or junction box surface mounted in areas designated as dry.

END OF SECTION

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DIVISION 26 - ELECTRICAL

SECTION 26 24 16

PANELBOARDS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers the following contract items:
1. Branch circuit panelboards.
 2. Distribution panelboards.
 3. Panelboards mounted in [motor control centers] [and] [integrated switchboards].

1.2 RELATED SECTIONS

- A. Related Specification Sections include but are not necessarily limited to:
1. Section 26 05 00 - Electrical - Basic Requirements.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform to Document 00702 – Interpretation of the Contract, Paragraph 2:
1. National Electrical Manufacturers Association (NEMA):
 - a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
 - b. PB 1, Panelboards.
 2. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC).
 3. Underwriters Laboratories, Inc. (UL):
 - a. 50, Enclosures for Electrical Equipment, Non-Environmental Considerations.
 - b. 67, Standard for Panelboards.

1.4 DEFINITIONS

- A. Branch Circuit Panelboard: Bus rating of 400A and less or where labeled as Branch Circuit Panelboard on the Drawings.
- B. Distribution Panelboard: Bus rating of 600A and greater or where labeled as Distribution Panelboard on the Drawings.

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1.5 SUBMITTALS

- A. Action Submittals:
 - 1. Shop Drawings:
 - a. Product technical data.
 - 1) Provide submittal data for all products specified in PART 2 of this Specification Section.
 - 2) See Specification Section 26 05 00 for additional requirements.
 - b. Fabrication and/or layout drawings:
 - 1) Panelboard layout with alphanumeric designation, branch circuit breakers size and type, as indicated in the panelboard schedules.
- B. Contract Closeout Information:
 - 1. Operation and Maintenance Data.
 - 2. Panelboard schedules with as-built conditions.
- C. Informational Submittals:
 - 1. Service equipment marking and documentation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers or approved equal are acceptable:
 - 1. Eaton.
 - 2. GE by ABB.
 - 3. Square D by Schneider Electric.
 - 4. Siemens Corporation.
 - 5. Or equivalent.

2.2 MANUFACTURED UNITS

- A. Standards: NEMA PB 1, NFPA 70, UL 50, UL 67.
- B. Ratings:
 - 1. Current, voltage, number of phases, number of wires as indicated on the Drawings.
 - 2. Short Circuit Current Rating (SCCR) and/or Ampere Interrupting Current (AIC) ratings equal to or greater than the interrupting rating indicated on the Drawings or in the schedule.
 - a. Series rating is not acceptable.

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- b. When fault current or minimum interrupting rating is not indicated, use rating of upstream equipment or infinite bus calculation of transformer secondary.
- 3. Service Entrance Equipment rated when indicated on the Drawings or when shown to be fed from a utility source.
- C. Construction:
 - 1. Interiors factory assembled and designed such that switching and protective devices can be replaced without disturbing adjacent units and without removing the main bus connectors.
 - 2. Multi-section panelboards: Feed-through or sub-feed lugs.
 - 3. Main lugs: Solderless type approved for copper and aluminum wire.
- D. Bus Bars:
 - 1. Main bus bars:
 - a. Tin plated aluminum or tin plated copper sized to limit temperature rise to a maximum of 65 DEGC above an ambient of 40 DEGC.
 - b. Drilled and tapped and arranged for sequence phasing of the branch circuit devices.
 - 2. Ground bus and isolated ground bus, when indicated on the Drawings: Solderless mechanical type connectors.
 - 3. Neutral bus bars: Insulated 100% rated or 200% rated, when indicated on the Drawings and with solderless mechanical type connectors.
- E. Overcurrent and Short Circuit Protective Devices:
 - 1. Main overcurrent protective device:
 - a. Molded case circuit breaker.
 - 2. Branch overcurrent protective devices:
 - a. Molded case circuit breaker.
 - 3. Factory installed.
- F. Enclosure:
 - 1. Boxes: Code gage galvanized steel, furnish without knockouts.
 - 2. Trim assembly: Code gage steel finished with rust inhibited primer and manufacturers standard paint inside and out.
 - 3. Branch circuit panelboard:
 - a. Trims supplied with hinged door-in-door construction.
 - 1) Outer door:
 - a) Allows access to the interior of the enclosure.
 - b) Hinged to the enclosure.

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- c) Opened by removal of screws or by operating a mechanical latch located behind the inner door.
- 2) Inner door:
 - a) Allows access to breakers (non-live parts).
 - b) Hinged to outer door.
 - c) Opened by operation of a keyed corrosion resistant chrome-plated combination lock and catch. Locks for all branch circuit panelboards keyed alike.
- b. Trims for surface mounted panelboards, same size as box.
- c. Trims for flush mounted panelboards, overlap the box by 3/4 IN on all sides.
- d. Nominal 20 IN wide and 5-3/4 IN deep with gutter space in accordance with NFPA 70.
- e. Clear plastic cover for directory card mounted on the inside of each door.
- f. Where NEMA 3R or NEMA 12 rating is indicated: Door gasketed.
- g. Where NEMA 4X is indicated: Stainless Steel.
- 4. Distribution panelboard:
 - a. Trims cover all live parts with switching device handles accessible.
 - b. Minimum 8 IN deep and less than or equal to 12 IN deep with gutter space in accordance with NFPA 70.
 - c. Clear plastic cover for directory card mounted front of enclosure.
 - d. Where NEMA 3R or NEMA 12 rating is indicated: Doors gasketed and lockable with corrosion resistant chrome-plated combination lock and catch, all locks keyed alike, or provisions for padlocks.
 - e. Where NEMA 4X is indicated: Stainless Steel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install as indicated on the Drawings, in accordance with the NFPA 70, and in accordance with manufacturer's instructions.
- B. Support panelboard enclosures from wall studs or modular channels support structure, per Specification Section 26 05 00.
- C. Provide NEMA rated enclosure as indicated on the Drawings. Where enclosure type is not indicated, provide enclosure rating suitable for the atmosphere where equipment is installed.
- D. Equipment Marking and Documentation:

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1. Provide labeling per NFPA 70 and other applicable codes.
 2. Service equipment:
 - a. Arc-flash hazard warning label. (Ref. NFPA 70 Article 110.16(A) and (B))
 - b. Available fault current label and documentation of the calculations made for compliance with marking requirements. (Ref. NFPA 70 Article 110.24)
 3. Other than service equipment:
 - a. Arc-flash hazard warning label. (Ref. NFPA 70 Article 110.16(A))
 - b. Available fault current label. (Ref. NFPA 70 Article 408.6)
 4. Identify (tag) all equipment and equipment components.
 5. Provide labels and tags.
 6. Available fault current and other required label data from Coordinated Power System Study as required by the contract documents.
- E. Provide each panelboard with a typed directory:
1. Identify all circuit locations in each panelboard with the load type and location served.
 2. Use Owner-furnished mechanical equipment designation if different than designation indicated on the Drawings.
 3. Use final building room names and numbers as identified by the Owner if different than designation indicated on the Drawings.
 4. Identify spare overcurrent devices.

END OF SECTION

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DIVISION 26 - ELECTRICAL

SECTION 26 50 00

INTERIOR LIGHTING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section covers the following contract items:
1. Material and installation requirements for:
 - a. Interior building and exterior building mounted luminaires.
 - b. Exterior and site luminaires.
 - c. LEDs.
 - d. Drivers.
 - e. Light poles.

1.2 RELATED SECTIONS

- A. Related Specification Sections include but are not necessarily limited to:
1. Section 26 05 00 - Electrical - Basic Requirements.
 2. Section 26 05 19 - Wire and Cable - 600 Volt and Below.

1.3 REFERENCES

- A. The following publications form a part of this specification to the extent referenced. Application of these publications shall conform with the following:
1. American National Standards Institute (ANSI):
 - a. C78.377, Specification for the Chromaticity of Solid State Lighting Products.
 2. Federal Communications Commission (FCC):
 - a. Code of Federal Regulations (CFR), 47 CFR 18, Industrial, Scientific and Medical Equipment.
 3. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - a. C62.41, Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.
 4. Illuminating Engineering Society of North America (IESNA):
 - a. LM-79, Electrical and Photometric Measurements of Solid-State Lighting Products.

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- b. LM-80, Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules.
- 5. National Electrical Manufacturers Association (NEMA):
 - a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
 - b. 410, Performance Testing for Lighting Controls and Switching Devices with Electronic Drivers and Discharge Ballasts.
 - c. LE 4, Recessed Luminaires, Ceiling Compatibility.
- 6. National Electrical Manufacturers Association/American National Standards Institute (NEMA/ANSI):
 - a. SSL 1, Electronic Drivers for LED Devices, Arrays or Systems.
- 7. National Fire Protection Association (NFPA):
 - a. 70, National Electrical Code (NEC).
 - b. 101, Life Safety Code.
- 8. Underwriters Laboratories, Inc. (UL):
 - a. 248-4, Low-Voltage Fuses - Part 4: Class CC Fuses.
 - b. 844, Standard for Luminaires for Use in Hazardous (Classified) Locations.
 - c. 924, Standard for Emergency Lighting and Power Equipment.
 - d. 1012, Power Units Other Than Class 2.
 - e. 1310, Standard for Class 2 Power Units.
 - f. 1598, Luminaires.
 - g. 8750, Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products.
- 9. United States Department of Energy (USDOE):
 - a. EAct, the National Energy Policy Act.

1.4 DEFINITIONS

- A. Useful Life for LED luminaire light sources:
 - 1. The operating hours before reaching 70% of the initial rated lumen output (L70) with no catastrophic failures under normal operating conditions.
 - 2. This is also known as 70% "Rated Lumen Maintenance Life" as defined in IESNA LM-80.

1.5 SUBMITTALS

- A. Action Submittals:
 - 1. Shop Drawings:

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- a. Product technical data:
- 1) Provide submittal data for all products specified in PART 2 of this Specification Section.
 - 2) Identify luminaire by Luminaire Schedule designation.
 - 3) Luminaire data sheet:
 - a) Name of manufacturer.
 - b) Complete order information (catalog number).
 - c) Description of construction and optics.
 - d) Total input wattage.
 - e) Luminous efficacy (lumens/Watt).
 - f) Photometric performance data including candlepower distribution and coefficient of utilization (CU) table.
 - g) Dimensional size.
 - h) Weight.
 - i) UL nameplate data for luminaires used in Class 1, Division 1 and 2 areas.
 - j) Effective Projected Areas (EPA) for pole mounted luminaires.
 - 4) Solid state Luminaire additional data:
 - a) Voltage.
 - b) Initial and IES L70 lumens.
 - c) Luminous efficacy (lumens/Watt).
 - d) Correlated Color Temperature (CCT).
 - e) Color Rendering Index (CRI).
 - f) Total Harmonic Distortion (THD).
 - g) Lamp life.
 - h) Driver manufacturer and model number.
 - i) Driver life.
 - j) Driver type (0-10V, constant voltage, constant current).
 - k) Dimming range and control device compatibility.
 - l) Remote driver: Maximum wire length to luminaire.
 - m) Emergency battery driver:
 - (1) Compatibility with lighting module.
 - (2) Lumen output of lighting module in emergency operation.

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- (3) Battery life.
 - (4) Description of testing.
 - (5) Ambient operating temperature.
 - n) Toxicity Characteristic Leaching Procedure (TCLP) compliance.
 - o) DesignLights Consortium (DLC) Listing.
 - p) Warranty information.
 - 5) Photometric calculation for manufacturers not listed in the Luminaire Schedule:
 - 6) See Specification Section 26 05 00 for additional requirements.
 - b. Test Reports:
 - 1) IESNA LM-79 Test Report for Solid-State Luminaire.
 - 2) IESNA LM-80 Test Report Solid-State Light Source.
 - c. Certifications: Solid-state Luminaire Useful Life Certificate.
- B. Contract Closeout Information:
- 1. Operation and Maintenance Data:
 - a. Provide Operation and Maintenance Manual submittals.
 - b. Submittal data for each component covered by warranty.
 - c. Warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following safety switch manufacturers or approved equal are acceptable:
- 1. Luminaires: Per Luminaire Schedule or equal.
 - 2. Solid State Light Sources:
 - a. Cree.
 - b. Xicato.
 - c. Luminaire manufacturer's proprietary system.
 - d. Or equivalent.
 - 3. LED Driver: Luminaire manufacturer's standard.
 - 4. Emergency ballasts:
 - a. Iota Engineering.

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- b. Philips Bodine.
- c. Or equivalent.
- 5. Emergency transfer devices: Philips Bodine or equivalent.
- 6. Poles: Luminaire manufacturer's standard or equivalent.

2.2 GENERAL REQUIREMENTS

- A. Luminaires complete with LED modules and drivers.
- B. Rated for area classification as indicated on the Drawings.
 - 1. In Class I, Division 1 and 2 areas, the temperature rating of the luminaires and LED combination shall not exceed the auto-ignition temperature of the atmosphere in which the Luminaire is used.
- C. Provide all recessed luminaires with gaskets of rubber, fiberglass, or equivalent material to prevent light leaks around flush trim.
 - 1. Provide recessed luminaires with trim gaskets cemented in proper position.
- D. Provide standard plaster frame for all recessed luminaires installed in plaster walls or ceilings.
 - 1. Design, finish and fabricate material to preclude possibility of rust stain in plaster.
- E. Coordinate luminaire mounting where recessed into building canopies prior to Submitting Shop Drawings. Confirm clearances and luminaire flange compatibility with construction.
- F. Electrical components of recessed luminaires shall be accessible and removable through luminaire without having to remove luminaire from ceiling.
- G. No live parts normally exposed to contact.
- H. When intended for use in wet areas: Mark luminaire "Suitable for wet locations."
- I. When intended for use in damp areas: Mark luminaire "Suitable for damp locations" or "Suitable for wet locations."

2.3 LUMINAIRES

- A. Standards and Listings:
 - 1. DesignLights Consortium (DLC).
 - 2. UL 1598.
 - 3. UL 844 for hazardous locations.
 - 4. NEMA LE 4 for recessed locations.
- B. Housings:
 - 1. As indicated in the Luminaire Schedule and the following:
- C. Castings:

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1. As indicated in the Luminaire Schedule and the following:
 - a. Uniform quality, free from imperfections affecting strength and appearance.
 - b. Exterior surfaces, if not receiving a finish coat, shall be smooth and match adjacent surfaces. At least one coat of clear methacrylate lacquer shall be applied unless a painted finish is specified.
- D. Fasteners:
 1. As indicated in the Luminaire Schedule and the following:
 - a. Aluminum or steel luminaires: Cadmium-plated or an equivalent.
 - b. Stainless steel luminaires: Stainless steel.
 - c. Bronze luminaires: Bronze or stainless steel.
 - d. Non-metallic luminaires: Stainless steel.
- E. Finishes:
 1. As indicated in the Luminaire Schedule and the following:
 - a. Painted surfaces:
 - 1) Manufacturer's standard metal pretreatment and baked or air-dried, light-stabilized enamel finish; acrylic, alkyd, epoxy, polyester or polyurethane.
 - 2) White finishes shall have minimum 85% reflectance.
 - b. Unpainted surfaces:
 - 1) Interior: Clear anodic coating, satin finish.
 - 2) Exterior: Clear anodic coating.
- F. Lens/Louver Frames:
 1. As indicated in the Luminaire Schedule and the following:
 - a. Extruded aluminum with mitered corners.
 - b. Hinging or other normal motion shall not cause lens or louver to drop out.
 - c. No light leak between frame and housing.
- G. Lenses:
 1. As Indicated in the Luminaire Schedule and the Following:
 - a. 100% virgin, UV stabilized acrylic.
 - b. Held securely in place but must also be removable for cleaning and servicing.

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- c. Luminaires with directional lenses shall include a lens orientation device to ensure that lens installation provides light distribution as designed.
 - d. No light leaks between the lens and the luminaire.
- H. Reflectors:
- 1. As Indicated in the Luminaire Schedule and the Following:
 - a. Down Light Reflector and Baffle Finishes: First-quality "Alzak" anodized specular finish.
 - b. Troffer reflector finish: Integral reflectors shall be painted white after fabrication with a minimum reflectance value of 90%.
- I. Gaskets:
- 1. As Indicated in the Luminaire Schedule and the Following:
 - a. Gaskets at face plates or frames of recessed luminaires which serve as ceiling trim and which allow interior access.
 - b. Moisture seal gaskets at exterior locations and in other designated wet areas.
 - c. Secure frames to luminaire bodies with screws or other means, to result in tight installation, without light leaks.
- J. Ventilation:
- 1. Ventilation openings of adequate size and quantity to permit operation of driver without affecting rated output or life expectancy. Include wire mesh screens.
- K. Wiring:
- L. Factory-wired to be compatible with the project electrical and controls systems.
- M. Mounting Accessories:
- 1. Provide appropriate mounting accessories for each luminaire, compatible with various structural conditions encountered.
 - 2. All luminaires with adjustable beam angles shall have a locking device to ensure that the beam distribution is not effected during servicing or cleaning.

2.4 SOLID-STATE LUMINAIRES - ADDITIONAL REQUIREMENTS

- A. Standards:
- 1. IESNA LM-79, IESNA LM-80.
 - 2. NEMA SSL 1.
 - 3. UL 1012, 1310, and 8750.
 - 4. UL 844 for hazardous locations.

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- B. Solid state modules and driver to be provided and warranted by luminaire manufacturer.
- C. Solid-State Modules:
 - 1. Uniform color temperature of 4000K unless otherwise noted on the Luminaire schedule.
 - a. Color temperature measurement shall have a maximum 3 SDCM on the MacAdam Ellipse for frosted lensed luminaires, and 2 SDCM for other luminaire types (ANSI C78.377).
 - 2. Minimum color rendering index (CRI) of 80 for indoor and 70 for outdoor applications.
 - 3. LED module light output and efficacy: Measured in accordance with IESNA LM-79 standards.
 - 4. LED useful life and lumen maintenance: Measured in accordance with IESNA LM-80 standards.
 - 5. Driver and LED module: Minimum useful life of 50,000 HRS (L70).
 - 6. Individual LEDs connected such that a failure of one LED will not result in a light output loss of the entire luminaire.
- D. Driver:
 - 1. Compatible with solid-state modules and control devices specified.
 - 2. Operate from 60 Hz input source of 120V through 277V with sustained variations of $\pm 10\%$ (voltage and frequency).
 - 3. Input current Total Harmonic Distortion (THD): Less than 20% when operated at nominal line voltage.
 - 4. Power Factor: Greater than 0.90.
 - 5. Avoid interference with infrared devices and eliminate visible flicker.
 - 6. Comply with ANSI C62.41 Category A for Transient protection.
 - 7. Comply with the requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 18, Non-Consumer (Class A) for EMI/RFI (conducted and radiated).
 - 8. Dimmable drivers capable of continuous dimming over a range of 100% to 10% of rated lumen output, unless otherwise specified in Luminaire Schedule. Dimming controlled by a 0 - 10 VDC signal, unless otherwise specified in Luminaire Schedule.
 - 9. Control device must be compatible with type of driver, and coordinated prior to submission of Shop Drawings. List of compatible dimming controllers must include the range of perceived brightness. No visible flicker throughout the dimming range.
 - 10. Remote-mounting:

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- a. Provide maximum allowable distances for secondary wire runs to luminaires.
 - b. Provide remote mounting hardware and enclosures as required.
11. Operating temperature range must be suitable for site temperature conditions within exterior and gasketed luminaires.
- E. Emergency Battery Driver:
1. UL 924.
 2. Confirm compatibility with LED modules utilized.
 3. Consist of a high temperature, maintenance-free nickel cadmium battery, charger and electronic circuitry.
 4. A solid state charging indicator light to monitor the charger and battery.
 5. Single-pole test switch.
 6. The following product family shall be selected based on coordination with LED lamp type:
 - a. Philips Bodine “BSL23C”: can operate up to 4.5W at 410mA.
 - b. Philips Bodine “BSL26C”: can operate up to 5.1W at 265mA.
 - c. Philips Bodine “BSL722 IN: can operate up to 23W at 770mA.
 - d. Philips Bodine “BSL23C”: can operate up to 23W at 770mA in operating conditions ranging from -20 DEGC (-4 DEGF) to 60 DEGC (140 DEGF).
 - e. Alternate manufacturer: Iota.
- F. Luminaire properly heat sunked to assure LED junction temperature ratings are not exceeded.
1. Provide ambient operating temperature range for which product is warrantied.

2.5 MAINTENANCE MATERIALS

- A. Furnish a minimum of 10% of total of each type and amperage of fuses for fixtures indicated to be fused.
- B. Spare parts are to be stored in a box clearly labeled as to its contents.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordinate Luminaire Types with Ceiling Construction:
 1. Provide mounting hardware for the ceiling system in which the luminaire is to be installed.

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- B. Fasten luminaires supported by suspended ceiling systems to ceiling framing system with hold down clips.
- C. Provide mounting brackets and/or structural mounting support for wall-mounted luminaires.
 - 1. Do not support luminaire from conduit system.
 - 2. When luminaire is supported from outlet boxes, install per NFPA 70.
 - 3. Supports for luminaire mounted on exterior walls shall not be attached to exterior face of the wall.
- D. Support surface mounted luminaires from the building structure and not from the ceiling suspension system.
 - 1. Luminaires up to 4 FT wide and 4 FT long: A minimum of four supporting points, one at each corner.
 - 2. Luminaires 8 FT long: A minimum of five support points, one at center of luminaire and one at each corner.
 - 3. Luminaires smaller than 2 FT in length: A minimum of two supporting points.
- E. Locate luminaire in exact center of ceiling tile unless otherwise indicated.
 - 1. Relocate incorrectly installed luminaire and replace damaged ceiling materials.
- F. Mount luminaire at heights indicated in Specification Section 26 05 00 or per Luminaire Schedule or as indicted on the Drawings.
- G. Install exterior luminaires so that water cannot enter or accumulate in the wiring compartment.
- H. Luminaires with Emergency Battery:
 - 1. Where luminaires with emergency battery are shown controlled via switching device, connect the emergency battery to corresponding unswitched circuit so emergency battery will not operate when normal power is available and switching device turns lights off. Upon failure of normal power, luminaire will operate in emergency mode regardless of switch position.
 - 2. Luminaire manufacturer to supply the emergency battery with luminaire.
- I. Ground luminaire.

END OF SECTION

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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: Lake Hodges Near Term Repairs Improvement Project

Internal Order No.: 21005332

Project Location-Specific: Lake Hodges Dam in City Council District 5 in the San Pasqual Community Planning Area.

Project Location-City/County: San Diego/San Diego

Description of nature and purpose of the Project: The project would implement repairs to Lake Hodges Dam's concrete structure. The repairs would include the repairs of cracks, spalls, and delaminated concrete on the downstream side of the dam and within the interior (tunnel) of the dam. This work would also include repairs to walkways within the dam interior and on top of the dam, the repair of deteriorated concrete down steps on north end of the dam, the repair of safety railing on top of the dam and extension of the safety railing to the bottom of those down steps, and the repair of metal handrails for the stairway that provide access to the dam interior (on the south side). Within the dam tunnel, an existing ventilation fan would be replaced. A new weir within the dam tunnel be installed to measure water leakage. Staging for equipment and vehicles would occur on flat unvegetated area adjacent to the spillway. The project would occur on concrete on the dam surface and within the interior of the dam and would not impact any vegetation.

No work within the dam tunnel would occur during the bat maternity season, between April 1st and August 31st, or when determined by a qualified bat biologist that bats are not present in the dam tunnel. The project occurs within the City's Multi-Habitat Planning Area (MHPA); and will be required to comply with the MHPA Land Use Adjacency Guidelines as specified in Section 1.4.3 of the Multiple Species Conservation Program's (MSCP) Subarea Plan.

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: Juan Baligad
Email/Phone No.: jbaligad@sandiego.gov / (619) 533-5473
525 B Street, Suite 750 (MS 908A), San Diego, CA 92101

Exempt Status: (CHECK ONE)

- 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 (Existing Facilities); 15302 (Replacement or Reconstruction)
- Statutory Exemptions: State section number

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 (Existing Facilities) (d), which includes the restoration or rehabilitation of deteriorated or damaged structures, and facilities to meet current standards of public health and safety, including the repair of deteriorated concrete on the dam surface and within the dam interior, and the repair of safety railings, repair of deteriorated footings of those safety railings, and the repair of concrete steps and walkways within and on the dam surface; and Section 15302(c), which includes the replacement or reconstruction of existing structures 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, including but not limited to the replacement of metal safety railings where needed, the replacement of a ventilation fan within the dam tunnel, and the extension of metal safety railings to include concrete steps that currently do not have railings; and where the exceptions listed in Section 15300.2 would not apply.

Lead Agency Contact Person: Juan Baligad

Telephone: (619) 533-5473

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

1/3/23

Date

Check One:

(X) Signed By Lead Agency

Date Received for Filing with County Clerk or OPR:

APPENDIX B
FIRE HYDRANT METER PROGRAM

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SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 1 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

1. **PURPOSE**

1.1 To establish a Departmental policy and procedure for issuance, proper usage and charges for fire hydrant meters.

2. **AUTHORITY**

2.1 All authorities and references shall be current versions and revisions.

2.2 San Diego Municipal Code (NC) Chapter VI, Article 7, Sections 67.14 and 67.15

2.3 Code of Federal Regulations, Safe Drinking Water Act of 1986

2.4 California Code of Regulations, Titles 17 and 22

2.5 California State Penal Code, Section 498B.0

2.6 State of California Water Code, Section 110, 500-6, and 520-23

2.7 Water Department Director

Reference

2.8 State of California Guidance Manual for Cross Connection Programs

2.9 American Water Works Association Manual M-14, Recommended Practice for Backflow Prevention

2.10 American Water Works Association Standards for Water Meters

2.11 U.S.C. Foundation for Cross Connection Control and Hydraulic Research Manual

3. **DEFINITIONS**

3.1 **Fire Hydrant Meter:** A portable water meter which is connected to a fire hydrant for the purpose of temporary use. (These meters are sometimes referred to as Construction Meters.)

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- 3.2 **Temporary Water Use:** Water provided to the customer for no longer than twelve (12) months.
- 3.3 **Backflow Preventor:** A Reduced Pressure Principal Assembly connected to the outlet side of a Fire Hydrant Meter.

4. **POLICY**

- 4.1 The Water Department shall collect a deposit from every customer requiring a fire hydrant meter and appurtenances prior to providing the meter and appurtenances (see Section 7.1 regarding the Fees and Deposit Schedule). The deposit is refundable upon the termination of use and return of equipment and appurtenances in good working condition.
- 4.2 Fire hydrant meters will have a 2 ½" swivel connection between the meter and fire hydrant. The meter shall not be connected to the 4" port on the hydrant. All Fire Hydrant Meters issued shall have a Reduced Pressure Principle Assembly (RP) as part of the installation. Spanner wrenches are the only tool allowed to turn on water at the fire hydrant.
- 4.3 The use of private hydrant meters on City hydrants is prohibited, with exceptions as noted below. All private fire hydrant meters are to be phased out of the City of San Diego. All customers who wish to continue to use their own fire hydrant meters must adhere to the following conditions:
 - a. Meters shall meet all City specifications and American Water Works Association (AWWA) standards.
 - b. Customers currently using private fire hydrant meters in the City of San Diego water system will be allowed to continue using the meter under the following conditions:
 - 1. The customer must submit a current certificate of accuracy and calibration results for private meters and private backflows annually to the City of San Diego, Water Department, Meter Shop.

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2. The meter must be properly identifiable with a clearly labeled serial number on the body of the fire hydrant meter. The serial number shall be plainly stamped on the register lid and the main casing. Serial numbers shall be visible from the top of the meter casing and the numbers shall be stamped on the top of the inlet casing flange.
3. All meters shall be locked to the fire hydrant by the Water Department, Meter Section (see Section 4.7).
4. All meters shall be read by the Water Department, Meter Section (see Section 4.7).
5. All meters shall be relocated by the Water Department, Meter Section (see Section 4.7).
6. These meters shall be tested on the anniversary of the original test date and proof of testing will be submitted to the Water Department, Meter Shop, on a yearly basis. If not tested, the meter will not be allowed for use in the City of San Diego.
7. All private fire hydrant meters shall have backflow devices attached when installed.
8. The customer must maintain and repair their own private meters and private backflows.
9. The customer must provide current test and calibration results to the Water Department, Meter Shop after any repairs.
10. When private meters are damaged beyond repair, these private meters will be replaced by City owned fire hydrant meters.

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11. When a private meter malfunctions, the customer will be notified and the meter will be removed by the City and returned to the customer for repairs. Testing and calibration results shall be given to the City prior to any re-installation.
 12. The register shall be hermetically sealed straight reading and shall be readable from the inlet side. Registration shall be in hundred cubic feet.
 13. The outlet shall have a 2 ½ “National Standards Tested (NST) fire hydrant male coupling.
 14. Private fire hydrant meters shall not be transferable from one contracting company to another (i.e. if a company goes out of business or is bought out by another company).
- 4.4 All fire hydrant meters and appurtenances shall be installed, relocated and removed by the City of San Diego, Water Department. All City owned fire hydrant meters and appurtenances shall be maintained by the City of San Diego, Water Department, Meter Services.
- 4.5 If any fire hydrant meter is used in violation of this Department Instruction, the violation will be reported to the Code Compliance Section for investigation and appropriate action. Any customer using a fire hydrant meter in violation of the requirements set forth above is subject to fines or penalties pursuant to the Municipal Code, Section 67.15 and Section 67.37.
- 4.6 Conditions and Processes for Issuance of a Fire Hydrant Meter**
- Process for Issuance
- a. Fire hydrant meters shall only be used for the following purposes:
 1. Temporary irrigation purposes not to exceed one year.

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2. Construction and maintenance related activities (see Tab 2).
 - b. No customer inside or outside the boundaries of the City of San Diego Water Department shall resell any portion of the water delivered through a fire hydrant by the City of San Diego Water Department.
 - c. The City of San Diego allows for the issuance of a temporary fire hydrant meter for a period not to exceed 12 months (365 days). An extension can only be granted in writing from the Water Department Director for up to 90 additional days. A written request for an extension by the consumer must be submitted at least 30 days prior to the 12 month period ending. No extension shall be granted to any customer with a delinquent account with the Water Department. No further extensions shall be granted.
 - d. Any customer requesting the issuance of a fire hydrant meter shall file an application with the Meter Section. The customer must complete a "Fire Hydrant Meter Application" (Tab 1) which includes the name of the company, the party responsible for payment, Social Security number and/or California ID, requested location of the meter (a detailed map signifying an exact location), local contact person, local phone number, a contractor's license (or a business license), description of specific water use, duration of use at the site and full name and address of the person responsible for payment.
 - e. At the time of the application the customer will pay their fees according to the schedule set forth in the Rate Book of Fees and Charges, located in the City Clerk's Office. All fees must be paid by check, money order or cashiers check, made payable to the City Treasurer. Cash will not be accepted.
 - f. No fire hydrant meters shall be furnished or relocated for any customer with a delinquent account with the Water Department.
 - g. After the fees have been paid and an account has been created, the

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meter shall be installed within 48 hours (by the second business day). For an additional fee, at overtime rates, meters can be installed within 24 hours (within one business day).

4.7 Relocation of Existing Fire Hydrant Meters

- a. The customer shall call the Fire Hydrant Meter Hotline (herein referred to as “Hotline”), a minimum of 24 hours in advance, to request the relocation of a meter. A fee will be charged to the existing account, which must be current before a work order is generated for the meter’s relocation.
- b. The customer will supply in writing the address where the meter is to be relocated (map page, cross street, etc). The customer must update the original Fire Hydrant Meter Application with any changes as it applies to the new location.
- c. Fire hydrant meters shall be read on a monthly basis. While fire hydrant meters and backflow devices are in service, commodity, base fee and damage charges, if applicable, will be billed to the customer on a monthly basis. If the account becomes delinquent, the meter will be removed.

4.8 Disconnection of Fire Hydrant Meter

- a. After ten (10) months a “Notice of Discontinuation of Service” (Tab 3) will be issued to the site and the address of record to notify the customer of the date of discontinuance of service. An extension can only be granted in writing from the Water Department Director for up to 90 additional days (as stated in Section 4.6C) and a copy of the extension shall be forwarded to the Meter Shop Supervisor. If an extension has not been approved, the meter will be removed after twelve (12) months of use.
- b. Upon completion of the project the customer will notify the Meter Services office via the Hotline to request the removal of the fire hydrant meter and appurtenances. A work order will be generated

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for removal of the meter.

- c. Meter Section staff will remove the meter and backflow prevention assembly and return it to the Meter Shop. Once returned to the Meter Shop the meter and backflow will be tested for accuracy and functionality.
- d. Meter Section Staff will contact and notify Customer Services of the final read and any charges resulting from damages to the meter and backflow or its appurtenance. These charges will be added on the customer's final bill and will be sent to the address of record. Any customer who has an outstanding balance will not receive additional meters.
- e. Outstanding balances due may be deducted from deposits and any balances refunded to the customer. Any outstanding balances will be turned over to the City Treasurer for collection. Outstanding balances may also be transferred to any other existing accounts.

5. **EXCEPTIONS**

- 5.1 Any request for exceptions to this policy shall be presented, in writing, to the Customer Support Deputy Director, or his/her designee for consideration.

6. **MOBILE METER**

- 6.1 Mobile meters will be allowed on a case by case basis. All mobile meters will be protected by an approved backflow assembly and the minimum requirement will be a Reduced Pressure Principal Assembly. The two types of Mobile Meters are vehicle mounted and floating meters. Each style of meters has separate guidelines that shall be followed for the customer to retain service and are described below:

- a) **Vehicle Mounted Meters:** Customer applies for and receives a City owned Fire Hydrant Meter from the Meter Shop. The customer mounts the meter on the vehicle and brings it to the Meter Shop for

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inspection. After installation is approved by the Meter Shop the vehicle and meter shall be brought to the Meter Shop on a monthly basis for meter reading and on a quarterly basis for testing of the backflow assembly. Meters mounted at the owner's expense shall have the one year contract expiration waived and shall have meter or backflow changed if either fails.

- b) **Floating Meters:** Floating Meters are meters that are not mounted to a vehicle. **(Note: All floating meters shall have an approved backflow assembly attached.)** The customer shall submit an application and a letter explaining the need for a floating meter to the Meter Shop. The Fire Hydrant Meter Administrator, after a thorough review of the needs of the customer, (i.e. number of jobsites per day, City contract work, lack of mounting area on work vehicle, etc.), may issue a floating meter. At the time of issue, it will be necessary for the customer to complete and sign the "Floating Fire Hydrant Meter Agreement" which states the following:

- 1) The meter will be brought to the Meter Shop at 2797 Caminito Chollas, San Diego on the third week of each month for the monthly read by Meter Shop personnel.
- 2) Every other month the meter will be read and the backflow will be tested. This date will be determined by the start date of the agreement.

If any of the conditions stated above are not met the Meter Shop has the right to cancel the contract for floating meter use and close the account associated with the meter. The Meter Shop will also exercise the right to refuse the issuance of another floating meter to the company in question.

Any Fire Hydrant Meter using reclaimed water shall not be allowed use again with any potable water supply. The customer shall incur the cost of replacing the meter and backflow device in this instance.

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7. **FEE AND DEPOSIT SCHEDULES**

- 7.1 **Fees and Deposit Schedules:** The fees and deposits, as listed in the Rate Book of Fees and Charges, on file with the Office of the City Clerk, are based on actual reimbursement of costs of services performed, equipment and materials. These deposits and fees will be amended, as needed, based on actual costs. Deposits, will be refunded at the end of the use of the fire hydrant meter, upon return of equipment in good working condition and all outstanding balances on account are paid. Deposits can also be used to cover outstanding balances.

All fees for equipment, installation, testing, relocation and other costs related to this program are subject to change without prior notification. The Mayor and Council will be notified of any future changes.

8. **UNAUTHORIZED USE OF WATER FROM A HYDRANT**

- 8.1 Use of water from any fire hydrant without a properly issued and installed fire hydrant meter is theft of City property. Customers who use water for unauthorized purposes or without a City of San Diego issued meter will be prosecuted.
- 8.2 If any unauthorized connection, disconnection or relocation of a fire hydrant meter, or other connection device is made by anyone other than authorized Water Department personnel, the person making the connection will be prosecuted for a violation of San Diego Municipal Code, Section 67.15. In the case of a second offense, the customer's fire hydrant meter shall be confiscated and/or the deposit will be forfeited.
- 8.3 Unauthorized water use shall be billed to the responsible party. Water use charges shall be based on meter readings, or estimates when meter readings are not available.
- 8.4 In case of unauthorized water use, the customer shall be billed for all applicable charges as if proper authorization for the water use had been obtained, including but not limited to bi-monthly service charges, installation charges and removal charges.

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 10 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

- 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	FACH
DATE	BY

METER SHOP (619) 527-7449

Meter Information

Application Date	Requested Install Date:
------------------	-------------------------

Fire Hydrant Location: (Attach Detailed Map//Thomas Bros. Map Location or Construction drawing.) <u>Zip:</u>	T.B.	G.B. (CITY USE)
Specific Use of Water:		
Any Return to Sewer or Storm Drain, if so, explain:		
Estimated Duration of Meter Use: <input type="text"/>	<input type="checkbox"/>	Check Box if Reclaimed Water

Company Information

Company Name:			
Mailing Address:			
City:	State:	Zip:	Phone: ()
*Business license#		*Contractor license#	
A Copy of the Contractor's license OR Business License is required at the time of meter issuance.			
Name and Title of Billing Agent: <small>(PERSON IN ACCOUNTS PAYABLE)</small>			Phone: ()
Site Contact Name and Title:			Phone: ()
Responsible Party Name:			Title:
Cal ID#			Phone: ()
Signature:		Date:	
<small>Guarantees Payment of all Charges Resulting from the use of this Meter. Insures that employees of this Organization understand the proper use of Fire Hydrant Meter</small>			

Fire Hydrant Meter Removal Request	Requested Removal Date:
Provide Current Meter Location if Different from Above:	
Signature:	Title: Date:
Phone: ()	Pager: ()

<input type="checkbox"/> City Meter	<input type="checkbox"/> Private Meter
Contract Acct #:	Deposit Amount: \$ 936.00 Fees Amount: \$ 62.00
Meter Serial #	Meter Size: 05 Meter Make and Style: 6-7
Backflow #	Backflow Size: Backflow Make and Style:
Name:	Signature: Date:

WATER USES WITHOUT ANTICIPATED CHARGES FOR RETURN TO SEWER

Auto Detailing
Backfilling
Combination Cleaners (Vactors)
Compaction
Concrete Cutters
Construction Trailers
Cross Connection Testing
Dust Control
Flushing Water Mains
Hydro Blasting
Hydro Seeing
Irrigation (for establishing irrigation only; not continuing irrigation)
Mixing Concrete
Mobile Car Washing
Special Events
Street Sweeping
Water Tanks
Water Trucks
Window Washing

Note:

1. If there is any return to sewer or storm drain, then sewer and/or storm drain fees will be charges.

Date

Name of Responsible Party
Company Name and Address
Account Number: _____

Subject: Discontinuation of Fire Hydrant Meter Service

Dear Water Department Customer:

The authorization for use of Fire Hydrant Meter # _____, located at (*Meter Location Address*) ends in 60 days and will be removed on or after (*Date Authorization Expires*). Extension requests for an additional 90 days must be submitted in writing for consideration 30 days prior to the discontinuation date. If you require an extension, please contact the Water Department, or mail your request for an extension to:

City of San Diego
Water Department
Attention: Meter Services
2797 Caminito Chollas
San Diego, CA 92105-5097

Should you have any questions regarding this matter, please call the Fire Hydrant Hotline at (619) _____ - _____.

Sincerely,

Water Department

APPENDIX C

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

1. Soil amendment
2. Fiber mulch
3. PVC or PE pipe up to 16 inch diameter
4. Stabilizing emulsion
5. Lime
6. Preformed elastomeric joint seal
7. Plain and fabric reinforced elastomeric bearing pads
8. Steel reinforced elastomeric bearing pads
9. Waterstops (Special Condition)
10. Epoxy coated bar reinforcement
11. Plain and reinforcing steel
12. Structural steel
13. Structural timber and lumber
14. Treated timber and lumber
15. Lumber and timber
16. Aluminum pipe and aluminum pipe arch
17. Corrugated steel pipe and corrugated steel pipe arch
18. Structural metal plate pipe arches and pipe arches
19. Perforated steel pipe
20. Aluminum underdrain pipe
21. Aluminum or steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints
22. Metal target plates
23. Paint (traffic striping)
24. Conductors
25. Painting of electrical equipment
26. Electrical components
27. Engineering fabric
28. Portland Cement
29. PCC admixtures
30. Minor concrete, asphalt
31. Asphalt (oil)
32. Liquid asphalt emulsion
33. Epoxy

APPENDIX D

SAMPLE CITY INVOICE WITH CASH FLOW FORECAST

Construction Cash Flow Forecast

"Sewer and Water Group Job 965 (W)"

WBS #:	B18108
Date Submitted:	10/10/2018
NTP Date:	3/23/2018
Final Statement of WD Date:	5/23/2020
Contract #:	K-XX-XXXX-XXX-X
Contract Amount:	\$5,617,000

Year	January	February	March	April	May	June	July	August	September	October	November	December
2018			15,000	25,000	52,000	52,000	100,000	100,000	10,000	100,000	100,000	100,000
2019	10,000	10,000	85,000	58,000	100,000	100,000	100,000	100,000	100,000	100,000	1,000,000	1,000,000
2020	100,000	100,000	100,000	1,000,000	1,000,000							
2021												
2022												
2023												
2024												
2025												

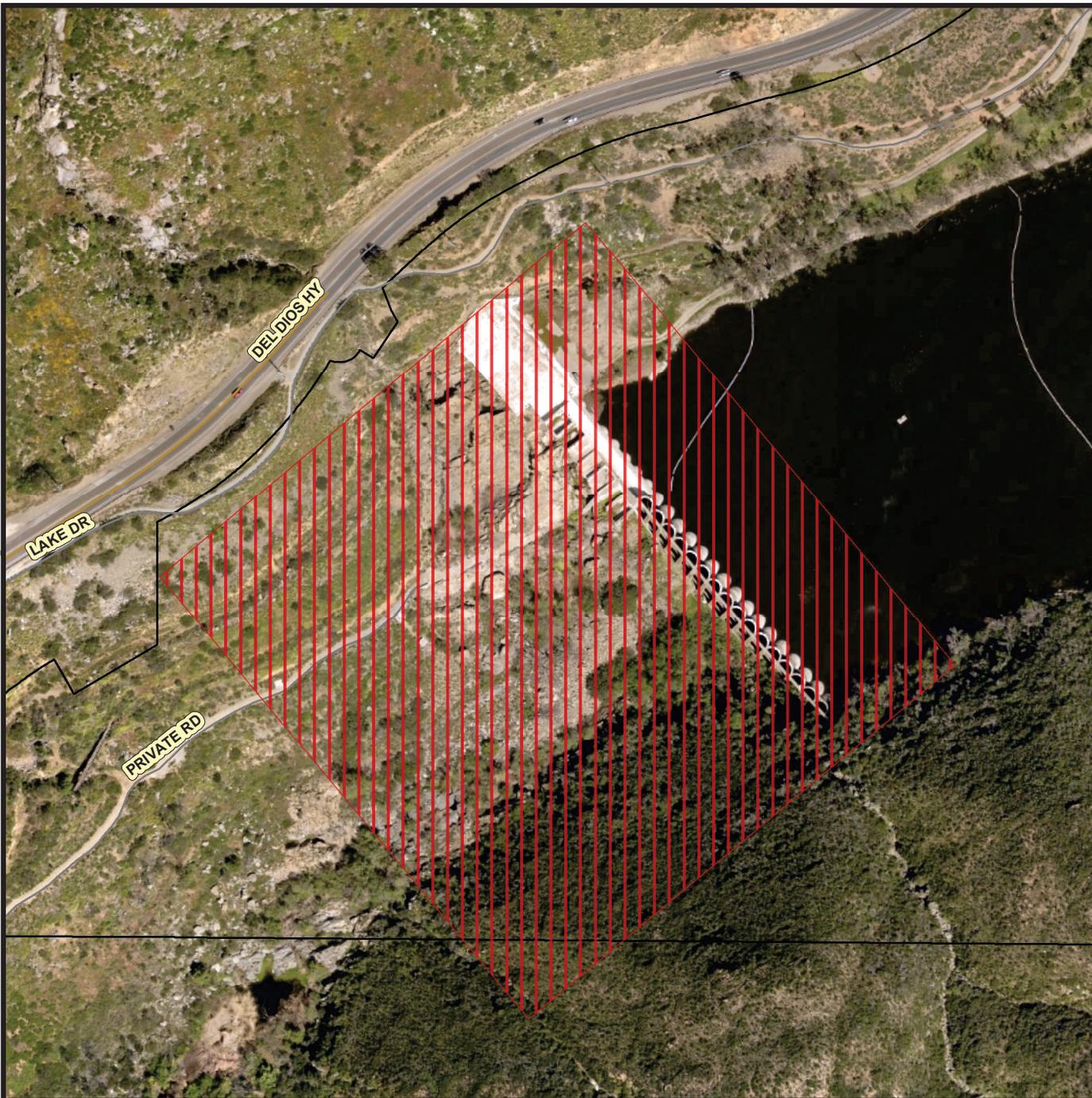
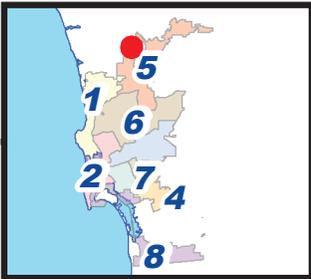
APPENDIX E
LOCATION MAP

HODGES NEAR-TERM REPAIRS

SENIOR ENGINEER
JONG CHOI
619-533-5493

PROJECT MANAGER
CAROLINA DELGADO
619-236-7391

FOR QUESTIONS ABOUT THIS PROJECT
Call: 619-533-4207
Email: engineering@sandiego.gov



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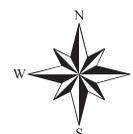
Legend

COMMUNITY NAME: SAN PASCUAL
Date: 5/18/2023

COUNCIL DISTRICT: 5



Hodges Dam Near-Term Repairs



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.
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- "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

ATTACHMENT F

RESERVED

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 **Palm Engineering Construction Co., Inc.**, herein called "Contractor" for construction of **Hodges Near-Term Repairs Improvement Project - Access Improvements and Installation Plans**; Bid No. **K-24-2202-DBB-3** in the total amount of **ONE MILLION SEVEN HUNDRED NINETY THOUSAND SIX HUNDRED NINETY DOLLARS (\$1,790,690)**.

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 **Hodges Near-Term Repairs Improvement Project - Access Improvements and Installation Plans**, on file in the office of the Purchasing & Contracting Department as Document No. **21005332**, 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 **Hodges Near-Term Repairs Improvement Project - Access Improvements and Installation Plans**, Bid Number **K-24-2202-DBB-3**, San Diego, California.
3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and the Contractor shall accept such payment in full satisfaction of all claims incident to such performances.
4. No claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.
5. This contract is effective as of the date that the Mayor or designee signs the agreement 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.

THE CITY OF SAN DIEGO,

By 

Print Name: Stephen Samara
Principal Contract Specialist
Purchasing & Contracting Dept.

Date: 10/16/2023

CONTRACTOR,
By 

Print Name: Rasoul Shahbazi

Title: President

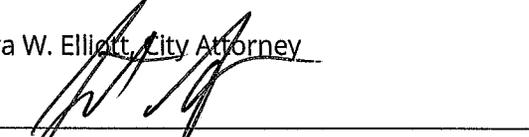
Date: 09/07/23

City of San Diego License No.: B2004010181

State Contractor's License No.: 853930

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000003218

APPROVED AS TO FORM

Mara W. Elliott, City Attorney
By 

Print Name: Justin Stanek
Deputy City Attorney

Date: 12/12/23

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

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:

Hodges Near-Term Repairs Improvement Project - Access Improvements and Installation Plans
(Project Title)

as particularly described in said contract and identified as Bid No. **K-24-2202-DBB-3**; SAP No. (IO) **21005332**; 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

LIST OF SUBCONTRACTORS

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY*** SEE INSTRUCTIONS TO BIDDERS, FOR FURTHER INFORMATION**

In accordance with the requirements of the "Subletting and Subcontracting Fair Practices Act", Section 4100, of the California Public Contract Code (PCC), the Bidder is to list below the name, address and license number of each Subcontractor who will perform work, labor, render services or specially fabricate and install a portion [type] of the work or improvement, in an amount of or in excess of 0.5% of the Contractor's total Bid. Failure to comply with this requirement may result in the Bid being rejected as non-responsive. The Contractor is to list only one Subcontractor for each portion of the Work. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percentage of the Work to be performed with the Bidder's own forces. The Bidder is to also list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors for which the Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONTRACTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB [Ⓞ]	WHERE CERTIFIED [Ⓜ]	CHECK IF JOINT VENTURE PARTNERSHIP
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____							

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

- Certified Minority Business Enterprise
- Certified Disadvantaged Business Enterprise
- Other Business Enterprise
- Certified Small Local Business Enterprise
- Woman-Owned Small Business
- Service-Disabled Veteran Owned Small Business
- MBE
- DBE
- OBE
- SLBE
- WoSB
- SDVOSB
- Certified Woman Business Enterprise
- Certified Disabled Veteran Business Enterprise
- Certified Emerging Local Business Enterprise
- Small Disadvantaged Business
- HUBZone Business
- WBE
- DVBE
- ELBE
- SDB
- HUBZone

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

- City of San Diego
- California Public Utilities Commission
- State of California's Department of General Services
- State of California
- CITY
- CPUC
- CADoGS
- CA
- State of California Department of Transportation
- City of Los Angeles
- U.S. Small Business Administration
- CALTRANS
- LA
- SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

***** PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY *** TO BE SUBMITTED IN ELECTRONIC FORMAT ONLY *** SEE INSTRUCTIONS TO BIDDERS FOR FURTHER INFORMATION**

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB ^①	WHERE CERTIFIED ^②
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____						
Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Email: _____						

- ① As appropriate, Bidder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):
- | | | | |
|---|--------|--|---------|
| Certified Minority Business Enterprise | MBE | Certified Woman Business Enterprise | WBE |
| Certified Disadvantaged Business Enterprise | DBE | Certified Disabled Veteran Business Enterprise | DVBE |
| Other Business Enterprise | OBE | Certified Emerging Local Business Enterprise | ELBE |
| Certified Small Local Business Enterprise | SLBE | Small Disadvantaged Business | SDB |
| Woman-Owned Small Business | WoSB | HUBZone Business | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSB | | |
- ② As appropriate, Bidder shall indicate if Vendor/Supplier is certified by:
- | | | | |
|--|--------|--|----------|
| City of San Diego | CITY | State of California Department of Transportation | CALTRANS |
| California Public Utilities Commission | CPUC | City of Los Angeles | LA |
| State of California's Department of General Services | CADoGS | U.S. Small Business Administration | SBA |
| State of California | CA | | |

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

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,

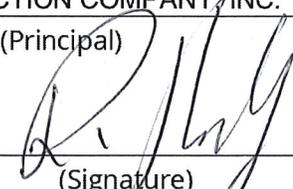
That PALM ENGINEERING CONSTRUCTION COMPANY, INC. as Principal, and NATIONWIDE MUTUAL INSURANCE COMPANY as Surety, are held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of **10% OF THE TOTAL BID AMOUNT** for the payment of which sum, well and truly to be made, we 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 HODGES NEAR-TERM REPAIRS IMPROVEMENT PROJECT - ACCESS IMPROVEMENTS AND INSTALLATION PLANS; BID NO. K-24-2202-DBB-3

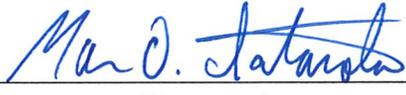
NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this 7TH day of AUGUST, 2023

PALM ENGINEERING CONSTRUCTION COMPANY, INC. (SEAL)
(Principal)

By: 
(Signature)
RASOUL SHAHBAZI, PRESIDENT

NATIONWIDE MUTUAL INSURANCE COMPANY (SEAL)
(Surety)

By: 
(Signature)
MARK D. IATAROLA, ATTORNEY-IN-FACT

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

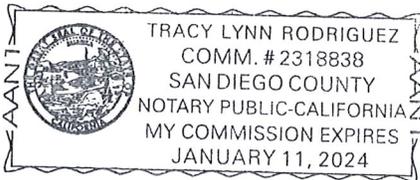
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of SAN DIEGO }

On 8/7/2023 before me, TRACY LYNN RODRIGUEZ, NOTARY PUBLIC
Date Here Insert Name and Title of the Officer

personally appeared MARK D. IATAROLA
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.



Place Notary Seal and/or Stamp Above

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 Tracy Lynn Rodriguez
Signature of Notary Public

OPTIONAL

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: MARK D. IATAROLA

Corporate Officer – Title(s): _____

Partner – Limited General

Individual Attorney in Fact

Trustee Guardian of Conservator

Other: _____

Signer is Representing: _____

Signer's Name: _____

Corporate Officer – Title(s): _____

Partner – Limited General

Individual Attorney in Fact

Trustee Guardian of Conservator

Other: _____

Signer is Representing: _____

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

HELEN MALONEY; JOHN G MALONEY; MARK D IATAROLA; SANDRA FIGUEROA; TRACY LYNN RODRIGUEZ;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.



Antonio C. Albanese, **Vice President** of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF NEW YORK: ss

On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.



Stephanie Rubino McArthur
Notary Public, State of New York
No. 02MC6270117
Qualified in New York County
Commission Expires October 19, 2024

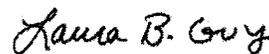


Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 7TH day of AUGUST, 2023.



Assistant Secretary

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.

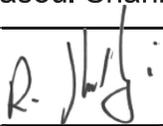
CHECK ONE BOX ONLY.

- 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
None	None	None	None	None	None

Contractor Name: Palm Engineering Construction Company, Inc.

Certified By Rasoul Shahbazi Title President
 Name
 Signature Date 08/22/23

USE ADDITIONAL FORMS AS NECESSARY

Mandatory Disclosure of Business Interests Form

BIDDER/PROPOSER INFORMATION

Legal Name		DBA	
Palm Engineering Construction Company, Inc.			
Street Address	City	State	Zip
7330 Opportunity Road, Suite A	San Diego	CA	92111
Contact Person, Title		Phone	Fax
Rasoul Shahbazi		619.291.1495	None

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.

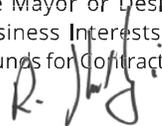
Name	Title/Position
Rasoul Shahbazi	President
City and State of Residence	Employer (if different than Bidder/Proposer)
Chula Vista, CA	
Interest in the transaction	
100%	

Name	Title/Position
City and State of Residence	Employer (if different than Bidder/Proposer)
Interest in the transaction	

*** 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.

Rasoul Shahbazi, President



08/22/23

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</i> and <i>contractors</i> who have been <i>debarred</i> or <i>suspended</i> are excluded from submitting bids, submitting responses to requests for proposal or qualifications, receiving <i>contract</i> awards, executing <i>contracts</i> , participating as a <i>subcontractor</i> , <i>employee</i> , <i>agent</i> 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
Rasoul Shahbazi	President

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.

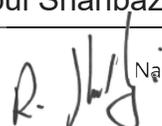
If there are any exceptions to this certification, insert the exceptions in the following space.

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: Palm Engineering Construction Company, Inc.

Certified By Rasoul Shahbazi Title President


Name
 Date 08/22/23

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
Timothy Sholl	President
Capital Industrial Restoration Inc.	

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Dwayne Henry	President
Moor Electric	

SUBCONTRACTOR SUPPLIER MANUFACTURER

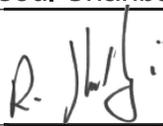
NAME	TITLE
Michael McGrath	President
McGrath Consulting	

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Glen Bullock	President
Dick Miller Inc.	

Contractor Name: Palm Engineering Construction Company, Inc.

Certified By Rasoul Shahbazi Title President

 Name
 Date 08/22/23

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
Barbara Merkel	President
Merkel & Associates	

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

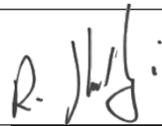
NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Palm Engineering Construction Company, Inc.

Certified By Rasoul Shahbazi Title President

 Name _____ Date 08/22/23

Signature

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 following Registered Engineer:

MA Tanwar
1) Registered Engineer

7/25/2023
Date

Seal:



J. Min Cho
2) For City Engineer

7/25/23
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. ATTACHMENTS

- 1. To Attachment A, Scope of Work, **Section 3, CONTRACT TIME**, page 21, **DELETE** in its entirety and **SUBSTITUTE** with the following:
 - 3. **CONTRACT TIME:** The Contract Time for completion of the Work shall be **118 Calendar Days**.

C. SUPPLEMENTARY SPECIAL PROVISIONS

- 1. To Attachment E, SECTION 1 - GENERAL, TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS, **Subsection 1-2, TERMS AND DEFINITIONS**, Page 49, **DELETE** in its entirety and **SUBSTITUTE** with the following:

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

To item 34, "Contract Time", DELETE in its entirety and SUBSTITUTE with the following:

Contract Time: The number of Calendar Days to complete the Work as specified in the Contract Documents. Contract Time begins at Notice to Proceed (NTP) and ends at Acceptance.

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 **6:00 AM to 6:00 PM, Monday through Sunday**, inclusive.

City Holidays are excluded. Unless otherwise specified on the Traffic Control Permits.

It is anticipated to have two working shifts and/or overtime for this project.

2. To Attachment E, SECTION 7 – MEASUREMENT AND PAYMENT, **Subsection 7-3.1, General**, Page 55, **ADD** the following:
 5. Payment for multiple working shifts and/or overtime shall be included in the contract price.

Rania Amen, Director
Engineering & Capital Projects Department

Dated: *July 26, 2023*
San Diego, California

RA/MJN/la

Bid Results

Bidder Details

Vendor Name Palm Engineering Construction Co., Inc.
Address 7330 Opportunity Road, Suite A
 San Diego, California 92111
 United States
Respondee Rasoul Shahbazi
Respondee Title President
Phone 161-929-1149
Email joe@palmengineeringco.com
Vendor Type CADIR, PQUAL, MALE
License # 853930
CADIR 1000003218

Bid Detail

Bid Format Electronic
Submitted 08/22/2023 1:27 PM (PDT)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 342551

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Pending Action Hodges.pdf	Pending Action Hodges.pdf	CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS
Business Interest Hodges.pdf	Business Interest Hodges.pdf	MANDATORY DISCLOSURE OF BUSINESS INTERESTS FORM
Prime Debarment Hodges.pdf	Prime Debarment Hodges.pdf	DEBARMENT AND SUSPENSION CERTIFICATION FOR PRIME CONTRACTOR
Sub Debarment Hodges (Complete).pdf	Sub Debarment Hodges (Complete).pdf	DEBARMENT AND SUSPENSION CERTIFICATION FOR SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
Bid Bond Hodges.pdf	Bid Bond Hodges.pdf	Bid Bond

Subcontractors

Showing 6 Subcontractors

Name & Address	Desc	License Num	CADIR	Amount	Type
Acculine Survey, Inc. 1919 Grand Avenue Suite 1G, San Diego San Diego, California 92109	Surveying	00000	1000013806	\$7,500.00	SLBE, Local
Capital Industrial Restoration 2538 Mercantile Drive, Suite D Rancho Cordova, California 95748	Crack repairs, epoxy injection, spall repair, delamination repairs, exposed rebar clean and coat.	699177	1000548528	\$305,230.00	
Dick Miller Inc. 930 Boardwalk, Suite H San Marcos, California 92078	Partial demolition, scaffolding installation and maintenance.	380204	1000004547	\$167,250.00	DVBE, CAU, SLBE, SDVSB, MALE, CADIR, Local
McGrath Consulting PO Box 2488 El Cajon, California 92021	SWPP Plan, SWPP inspections.	000000	1000037165	\$4,850.00	Local
Merkel & Associates, Inc. 5434 Ruffin Road San Diego, California 92123	Biologist monitoring.	724891	1000021267	\$10,000.00	WBE, CADIR, FEM, CAU, Local
Moor Electric, Inc. 1244 Manchester Street National City, California 91950	Electrical, lighting, power, panels, etc.	797985	1000002598	\$171,000.00	DBE, SDB, MBE, ELBE, AFR, HUBZ, MALE, CADIR, Local

Line Items

Discount Terms No Discount

Item #	Item Code	Type	Item Description	UOM	QTY	Unit Price	Line Total	Response	Comment
Main Bid							\$1,790,690.00		
1	524126		Bonds (Payment and Performance)	LS	1	\$21,900.00	\$21,900.00	Yes	
2	237990		Construction of Hodges Near-Term Improvement Repairs	LS	1	\$1,556,590.00	\$1,556,590.00	Yes	
3	237990		Mobilization/Demobilization	LS	1	\$81,400.00	\$81,400.00	Yes	
4			Field Orders (EOC Type II)	AL	1	\$100,000.00	\$100,000.00	Yes	
5	541330		WPCP Development	LS	1	\$800.00	\$800.00	Yes	
6	237310		WPCP Implementation	LS	1	\$30,000.00	\$30,000.00	Yes	

Line Item Subtotals

Section Title	Line Total
Main Bid	\$1,790,690.00
Grand Total	\$1,790,690.00