

ENGINEER OF WORK

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



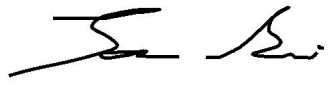
1) Licensed Landscape Architect

6/14/23

Date

Seal:





2) For City Engineer

06/14/2023

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(e), (3)-(5) 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>

FEDERAL DOCUMENTS SUBMITTAL REQUIREMENTS

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	At Time of Bid	ALL BIDDERS
5.	Disclosure of Lobbying Activities	At Time of Bid	ALL BIDDERS
6.	Bid Bond (Original)	By 5PM, 1 Working Day After Bid Opening	ALL BIDDERS
7.	Federal Good Faith Documentation	Within 4 working days of bid opening	ALL BIDDERS
8.	Form AA61 – List of Work Made Available	Within 4 working days of bid opening with good faith effort documentation	ALL BIDDERS

ITEM	DOCUMENT TO BE SUBMITTED	WHEN DUE	FROM
9.	Form AA62 – Summary of Bids Received	Within 4 working days of bid opening with good faith effort documentation	ALL BIDDERS
10.	Form AA63 – Good Faith Effort List of Subcontractors Solicited	Within 4 working days of bid opening with good faith effort documentation	ALL BIDDERS
11.	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
12.	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
13.	Listing of “Other Than First Tier” Subcontractors	Within 10 working days of receipt by bidder of contract forms	AWARDED BIDDER
14.	Form AA64 MBE/WBE Information and Form AA65 Section 3 Outreach Methods	Shall be submitted upon award	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 **Egger South Bay Community Park**. 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 **\$3,900,000**.
4. **BID DUE DATE AND TIME ARE: AUGUST 8, 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 affirms that in any contract entered into pursuant to this advertisement, DBE firms will be afforded full opportunity to submit Bids in response to this invitation.
 - 7.2. This Federally assisted project includes subcontracting participation percentages for DBE participation. DBE goal commitments and Good Faith Efforts (GFE) shall be made prior to bidding. DBE commitments and GFE made after the Bid opening will not be considered for the Award of Contract.
 - 7.3. This project is subject to the federal equal opportunity regulations and the following requirements. The City reserves the right to audit the Contractor's compliance with the federal requirements set forth below.
 - 7.4. Following are federally subcontracting participation percentages for this contract. For the purpose of achieving the subcontractor participation percentage, Additive or Deductive, and Type II Allowance Bid Items will not be included in the calculation.
 - 7.5 **Department of Housing and Urban Development (HUD):**

1. Small Disadvantaged Business (SDB):	5%
2. Women-Owned Small Business (WoSB):	5%
3. HUBZone Small Business (HubZone):	3%
4. Service Disabled Veteran-owned Small Business (SDVoSB):	3%
 - 7.6. Bid shall be **declared non-responsive** if the Bidder fails any of the following conditions:
 - 7.6.1. Attend the Pre-Bid Meeting as described herein.
 - 7.6.2. Submission of GFE documentation, as specified in the Special Provisions.

7.6.3 Submit Good Faith Effort (GFE) documentation, saved in searchable Portable Document Format (PDF), demonstrating the Bidder made a good faith effort to **conduct** outreach to and include DBE Subcontractors as required in this solicitation by 5 PM 4 Working Days after the Bid opening.

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. PRE-BID MEETING:

8.1. MANDATORY ONLINE PRE-BID MEETING:

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

The Pre-Bid Meeting will be held on **Tuesday, July 25, 2023**, at **10:00 AM** (PDT) at:

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 275 776 840 736

Passcode: f8rWo5

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

[+1 323-813-7079,,587944940#](#) United States, Los Angeles

Phone Conference ID: 587 944 940#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)

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

The purpose of the meeting is to discuss the scope of the Project, submittal requirements, and any Equal Opportunity Contracting Program requirements and reporting procedures Failure to attend the Mandatory Pre-Bid Meeting may result in the Design-Builder's Bid being deemed non-responsive.

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

Bidders may not be admitted after the specified start time of the mandatory Pre-Bid Meeting.

9. AWARD PROCESS:

- 9.1.** 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.
- 9.2.** 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.
- 9.3.** 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.
- 9.4.** The low Bid will be determined by the Base Bid.
- 9.5.** Once the low bid has been determined, the City may, at its sole discretion, award the contract for the Base Bid alone.

10. SUBMISSION OF QUESTIONS:

- 10.1** 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:

RMcMinn@sandiego.gov
- 10.2** Questions received less than 14 days prior to the date for opening of Bids may not be considered.
- 10.3** 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.
- 10.4** 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 online. 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, 4 working days 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, 4 working days 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:

De La Fuente Construction, Inc., a corporation, as principal, and
Markel 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
Four Million Two Hundred Forty Two Thousand Two Hundred Seventy One Dollars and Zero Cents
(\$4,242,271.00) for the faithful performance of the annexed contract, and in the sum of Four Million
Two Hundred Forty Two Thousand Two Hundred Seventy One Dollars and Zero Cents (\$4,242,271.00)
for the benefit of laborers and materialmen designated below.

Conditions:

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

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

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

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

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

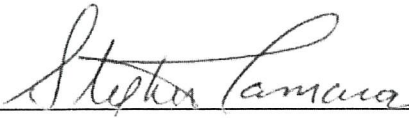
The Surety expressly agrees that the City of San Diego may reject any contractor or
subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default
by the Principal.

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

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

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

By: 

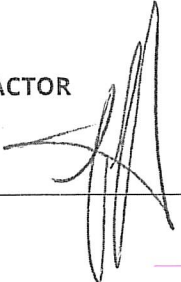
Mara W. Elliott, City Attorney
By: 

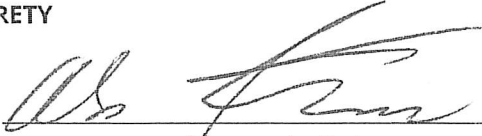
Print Name: Stephen Samara
Principal Contract Specialist
Purchasing & Contracting Department
Date: 11/7/2023

Print Name: Dominic Guglielmo
Deputy City Attorney
Date: 11/17/23

CONTRACTOR

SURETY

By: 

By: 
Attorney-In-Fact

Print Name: Jorge Diaz, President

Print Name: Alexander Karaniwan

Date: _____

Date: 09/27/2023

110 W A St, Ste 725, San Diego, CA 92101
Local Address of Surety

619-297-3160
Local Phone Number of Surety

\$36,622.00
Premium

4469738
Bond Number

JOINT LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That SureTec Insurance Company, a Corporation duly organized and existing under the laws of the State of Texas and having its principal office in the County of Harris, Texas and Markel Insurance Company (the "Company"), a corporation duly organized and existing under the laws of the state of Illinois, and having its principal administrative office in Glen Allen, Virginia, does by these presents make, constitute and appoint:

William Ray Bodensadt, Travis Jon Pearson, Kyle King, Hannah McGarvey, Alexander Karaniwan

Their true and lawful agent(s) and attorney(s)-in-fact, each in their separate capacity if more than one is named above, to make, execute, seal and deliver for and on their own behalf, individually as a surety or jointly, as co-sureties, and as their act and deed any and all bonds and other undertaking in suretyship provided, however, that the penal sum of any one such instrument executed hereunder shall not exceed the sum of:

Thirty Million and 00/100 Dollars (\$30,000,000.00)

This Power of Attorney is granted and is signed and sealed under and by the authority of the following Resolutions adopted by the Board of Directors of SureTec Insurance Company and Markel Insurance Company:

"RESOLVED, That the President, any Senior Vice President, Vice President, Assistant Vice President, Secretary, Assistant Secretary, Treasurer or Assistant Treasurer and each of them hereby is authorized to execute powers of attorney, and such authority can be executed by use of facsimile signature, which may be attested or acknowledged by any officer or attorney, of the company, qualifying the attorney or attorneys named in the given power of attorney, to execute in behalf of, and acknowledge as the act and deed of the SureTec Insurance Company and Markel Insurance Company, as the case may be, all bond undertakings and contracts of suretyship, and to affix the corporate seal thereto."

IN WITNESS WHEREOF, Markel Insurance Company and SureTec Insurance Company have caused their official seal to be hereunto affixed and these presents to be signed by their duly authorized officers on the 27th day of January, 2023.

SureTec Insurance Company

By: [Signature]
Michael C. Kelmig, President



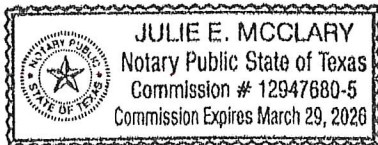
Markel Insurance Company

By: [Signature]
Lindsey Jennings, Vice President

State of Texas
County of Harris:

On this 27th day of January, 2023 A. D., before me, a Notary Public of the State of Texas, in and for the County of Harris, duly commissioned and qualified, came THE ABOVE OFFICERS OF THE COMPANIES, to me personally known to be the individuals and officers described in, who executed the preceding instrument, and they acknowledged the execution of same, and being by me duly sworn, disposed and said that they are the officers of the said companies aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and the said Corporate Seals and their signatures as officers were duly affixed and subscribed to the said instrument by the authority and direction of the said companies, and that Resolutions adopted by the Board of Directors of said Companies referred to in the preceding instrument is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand, and affixed my Official Seal at the County of Harris, the day and year first above written.



By: [Signature]
Julie E. McClary, Notary Public
My commission expires 3/29/2026

We, the undersigned Officers of SureTec Insurance Company and Markel Insurance Company do hereby certify that the original POWER OF ATTORNEY of which the foregoing is a full, true and correct copy is still in full force and effect and has not been revoked.

IN WITNESS WHEREOF, we have hereunto set our hands, and affixed the Seals of said Companies, on the 27th day of September, 2023.

SureTec Insurance Company

By: [Signature]
M. Brent Beaty, Assistant Secretary

Markel Insurance Company

By: [Signature]
Andrew Marquis, Assistant Secretary

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 SEP 27 2023 before me, Grant Jacka, Notary Public,
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Alexander Karaniwan
Name(s) of Signer(s)



who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Witness my hand and official seal.

Signature [Handwritten Signature]
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

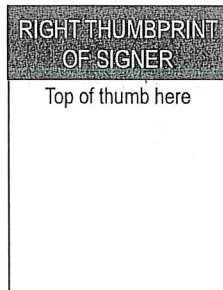
Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

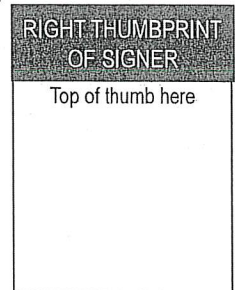
- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer is Representing:

Signer's Name: _____

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



Signer is Representing:

ATTACHMENTS

ATTACHMENT A
SCOPE OF WORK

SCOPE OF WORK

- 1. SCOPE OF WORK:** Project includes improvements to the existing playgrounds with new play structures and equipment, new fitness equipment, resilient surfacing, basketball court, and shade structures. Work also include parking lot resurfacing and drainage improvements, landscaping and irrigation, security lighting improvements, park and restroom accessibility improvements, and other park amenities.

1.1. The Work shall be performed in accordance with:

- 1.1.1.** The Notice Inviting Bids Plans numbered **42448-1-D through 42448-62-D**, inclusive.

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

The project is bounded by Coronado Avenue to the north, Halo Street to the south, Saturn Boulevard to the east, and 17th Street to the west at 1885 Coronado Avenue, San Diego, CA 92154. It is within the Otay Mesa-Nestor Community Planning Area and Council District 8.

See **Appendix E - Location Map**.

- 3. CONTRACT TIME:** The Contract Time for completion of the Work, including the Plant Establishment Period, shall be **220 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 it's 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 it's 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.

ATTACHMENT D
FUNDING AGENCY PROVISIONS
COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
HOUSING AND URBAN DEVELOPMENT (HUD)

IN THE EVENT THAT THESE REQUIREMENTS CONFLICT WITH THE CITY'S GENERAL EOC REQUIREMENTS, THE FUNDING AGENCY'S REQUIREMENTS WILL CONTROL.

1. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246).

1.1. The goal and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, as follows:

	<u>Goal</u>
1. Minority Participation:	16.9%
2. Female Participation:	6.9%

1.2. These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs Work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the Work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both federally involved and non-federally involved Work.

1.3. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals.

1.4. The hours of minority and female employment and training shall be substantially uniform throughout the length of the Contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the Contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

1.5. The Contractor shall provide written notification to the Director the Office of Federal Contract Compliance Programs within 10 Working Days of award of any Subcontract in excess of \$10,000 at any tier for Work under the Contract resulting from this solicitation. The notification shall list the name, address and telephone number of the Subcontractor; employer identification number of the Subcontractor; estimated dollar amount of the Subcontract; estimated starting and completion dates of the Subcontract; and the geographical area in which the subcontract is to be performed. The "covered area" is the City of San Diego.

2. EQUAL OPPORTUNITY CLAUSES:

2.1. The following equal opportunity clauses are incorporated by reference herein:

1. The equal opportunity clause located 41 CFR 60.1.4(a), which specifies the obligations imposed under Executive Order 11246.
2. The equal opportunity clause located at 41 CFR 60-741.5, which contains the obligations imposed by Section 503 of the Rehabilitation Act of 1973.
3. The "Equal Opportunity Clause" (Resolution No. 765092) filed on December 4, 1978, in the Office of the City Clerk, San Diego, California and incorporated in the "Standard Federal Employment Opportunity Construction Contract Specifications (Executive Order 11246 - Document No. 769023, filed September 11, 1984, in the Office of the City Clerk, San Diego, California) is applicable to all non-exempt City construction contracts and subcontracts of \$2,000 or more.
4. Age Discrimination Act of 1975, Pub. L. 94-135.
5. Title VI of the Civil Rights Act of 1964, Pub. L. 88-352.
6. Section 13 of the Federal Water Pollution Control Acts Amendments of 1972, Pub. L. 92-5200 (the Clean Water Act).
7. Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112 (Executive Orders 11914 and 11250).
8. Women's Minority Business Enterprises, Executive Orders 11625, 12138 and 12432.
9. Section 129 of the Small Business Administration Reauthorization and Amendment Act of 1988, Pub. L. 100-590.

3. STANDARD FEDERAL EQUAL EMPLOYMENT SPECIFICATIONS:

3.1. The Contractor is required to comply with the 15 "Standard Federal Equal Employment Specifications" in section 3.2 below and also located in 41 CFR 60-4.3 for federal and federally-assisted construction contracts in excess of \$10,000.

3.2. Standard Federal Equal Employment Specifications.

1. As used in these specifications:
 - a) "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b) "Director" means **Director, Office of Federal Contract Compliance Programs, United States Department of Labor**, or any person to whom the Director delegates authority;
 - c) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

- d) Minority" includes:
- i. Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - iii. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - iv. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in item 7, paragraphs "a" through "p", of this section below. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any

Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities
 - b) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

- d) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.
- f) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to

organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

- j) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
- k) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR part 60-3.
- l) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (item 7, paragraphs "a" through "p", of this section). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under item 7, paragraphs "a" through "p", of this section that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, sexual orientation, gender identity, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in item 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area

residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

- 3.3.** Segregated Facilities (41 CFR 60-1.8). The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensuring that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. This obligation extends to all contracts containing the equal opportunity clause regardless of the amount of the contract. The term "facilities," as used in this section, means waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, wash rooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees; Provided, That separate or single-user restrooms and necessary dressing or sleeping areas shall be provided to assure privacy between the sexes.

4. VIOLATION OR BREACH OF REQUIREMENTS:

- 4.1.** If at any time during the course of the Contract there is a violation of the Affirmative Action or Equal Employment Opportunity requirements by the Contractor, or the Subcontractors, the City will notify the Contractor of the breach. The City may withhold any further progress payments to the Contractor until the City is satisfied that the Contractor and Subcontractors are in full compliance with these requirements.

5. MONTHLY EMPLOYMENT UTILIZATION REPORTS:

- 5.1.** Refer to GENERAL EQUAL OPPORTUNITY CONTRACTING PROGRAM REQUIREMENTS, CONSTRUCTION CONTRACTOR REQUIREMENTS at [Equal Opportunity Contracting | City of San Diego Official Website](#) (or See Attachment C, Equal Opportunity Contracting Program) and the following:

1. Federal and Non-Federal Work in San Diego County. Submit an updated list only if work is complete or new contracts have been awarded during the span of this project.

6. RECORDS OF PAYMENTS TO DBEs:

- 6.1.** The Contractor shall maintain records and documents of payments to DBEs for 5 years following the NOC. These records shall be made available for inspection upon request by any authorized representative of the City, funding agency, or both. The reporting requirement shall be extended to any certified DBE Subcontractor.

7. FEDERAL WAGE REQUIREMENTS FOR FEDERALLY FUNDED PROJECTS:

- 7.1.** The successful Bidder's work shall be required to comply with Executive Order 11246, entitled "Equal Employment Opportunity," as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR chapter 60).
- 7.2.** This Executive Order pertains to Equal Employment Opportunity regulations and contains significant changes to the regulations including new goals and timetables for women in construction and revised goals and time-tables for minorities in construction.
- 7.3.** Minimum wage rates for this project have been predetermined by the Secretary of Labor and are set forth in the Decision of the Secretary and bound into the specifications book. Should there be any difference between the state or federal wage rates, including health and welfare funds for any given craft, mechanic, or similar classifications needed to execute the Work, it shall be mandatory upon the Contractor or subcontractor to pay the higher of the two rates.
- 7.4.** The minimum wage rate to be paid by the Contractor and the Subcontractors shall be in accordance with the Federal Labor Standards Provisions (see pages below) and Federal Wage Rates (see Wage Rates below) and General Prevailing Wage Determination made by the State of California, Director of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1, whichever is higher.
- 7.5.** A Contractor having 50 or more employees and its Subcontractors having 50 or more employees and who may be awarded a contract of \$50,000 or more will be required to maintain an affirmative action program, the standards for which are contained in the specifications.
- 7.6.** To be eligible for award, each Bidder shall comply with the affirmative action requirements which are contained in the specifications.
- 7.7.** Women will be afforded equal opportunity in all areas of employment. However, the employment of women shall not diminish the standards of requirements for the employment of minorities.

8. 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.

- 8.1. 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.

8.1.1. 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.

8.1.2. 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.

8.2. 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.

8.3. 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.

8.3.1. For contracts entered into on or after April 1, 2015, Contractor and their subcontractors shall furnish records specified in Labor Code section 1776

directly to the Labor Commissioner in the manner required by Labor Code section 1771.4.

- 8.4. 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.
- 8.5. 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.
- 8.6. 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.
- 8.7. 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.”
- 8.8. 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.
- 8.9. 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.

- 8.9.1.** 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.
- 8.9.2.** 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.
- 8.10. 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.
- 8.11. List of all Subcontractors.** The City may ask Contractor for the most current list of subcontractors (regardless of tier), along with their DIR registration numbers, utilized on this Agreement at any time during performance of this contract, and Contractor shall provide the list within ten (10) working days of the City's request. Additionally, Contractor shall provide the City with a complete list of all subcontractors utilized on this contract (regardless of tier), within ten working days of the completion of the contract, along with their DIR registration numbers. The City shall withhold final payment to Contractor until at least 30 days after this information is provided to the City.
- 8.12. 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:
- 8.12.1. Registration.** The Contractor will not be required to register with the DIR for small projects. (Labor Code section 1771.1).
- 8.12.2. 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).
- 8.12.3. 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 8.11. above. (Labor code section 1773.3).

		on this wage determination,	
		if it is higher) for all	
		hours spent performing on	
		that contract in 2023.	
_____		_____	

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	06/09/2023

ASBE0005-002 07/04/2022

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 49.58	25.27
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 32.09	19.66

ASBE0005-004 07/04/2022

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 23.52	13.37

BOIL0092-003 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 46.03	38.81

BRCA0004-008 11/01/2022

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 44.65	19.00

BRCA0018-004 06/01/2022

	Rates	Fringes
MARBLE FINISHER.....	\$ 37.87	14.13
TILE FINISHER.....	\$ 32.44	12.54
TILE LAYER.....	\$ 45.05	18.33

BRCA0018-010 09/01/2022

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 38.37	14.13
TERRAZZO WORKER/SETTER.....	\$ 46.49	14.66

CARP0213-003 07/01/2021

	Rates	Fringes
Drywall		
(1) Work on wood framed construction of single family residences, apartments or condominiums under four stories		
Drywall Installer/Lather....	\$ 32.14	16.28
Drywall Stocker/Scrapper....	\$ 22.16	8.62

CARP0619-002 07/01/2021

	Rates	Fringes
Drywall		
(2) All other work		
Drywall Installer/Lather....	\$ 42.80	16.28
Drywall Stocker/Scrapper....	\$ 23.07	8.62

CARP0619-003 07/01/2021

	Rates	Fringes
CARPENTER		
(1) Bridge.....	\$ 51.53	16.28
(2) Commercial Building....	\$ 46.30	16.28
(3) Heavy & Highway.....	\$ 51.40	16.28
(4) Residential Carpenter..	\$ 38.47	16.28
(5) Residential		
Insulation Installer.....	\$ 24.16	15.76
PILEDRIVERMAN.....	\$ 51.53	16.28

CARP0619-004 07/01/2021

	Rates	Fringes
Diver		
(1) Wet.....	\$ 831.20	16.28
(2) Standby.....	\$ 444.24	16.28
(3) Tender.....	\$ 436.24	16.28
(4) Assistant Tender.....	\$ 412.24	16.28

Amounts in "'Rates' column are per day

CARP0721-001 07/01/2021

	Rates	Fringes
Modular Furniture Installer.....	\$ 21.85	7.15

CARP1607-004 07/01/2021

	Rates	Fringes
MILLWRIGHT.....	\$ 51.90	16.48

* ELEC0569-001 06/05/2023

	Rates	Fringes
Electricians (Tunnel Work)		
Cable Splicer.....	\$ 60.30	17.84
Electrician.....	\$ 59.46	17.81
Electricians: (All Other Work, Including 4 Stories Residential)		
Cable Splicer.....	\$ 53.60	17.64
Electrician.....	\$ 52.85	17.62

ELEC0569-004 06/01/2021

	Rates	Fringes
ELECTRICIAN (Sound & Communications Sound Technician).....	\$ 35.20	13.84
<p>SCOPE OF WORK Assembly, installation, operation, service and maintenance of components or systems as used in closed circuit television, amplified master television distribution, CATV on private property, intercommunication, burglar alarm, fire alarm, life support and all security alarms, private and public telephone and related telephone interconnect, public address, paging, audio, language, electronic, background music system less than line voltage or any system acceptable for class two wiring for private, commercial, or industrial use furnished by leased wire, frequency modulation or other recording devices, electrical apparatus by means of which electricity is applied to the amplification, transmission, transference, recording or reproduction of voice, music, sound, impulses and video. Excluded from this Scope of Work - transmission, service and maintenance of background music. All of the above shall include the installation and transmission over fiber optics.</p>		

ELEC0569-005 06/01/2021

Rates Fringes

Sound & Communications

Sound Technician.....\$ 35.20 13.84

SCOPE OF WORK Assembly, installation, operation, service and maintenance of components or systems as used in closed circuit television, amplified master television distribution, CATV on private property, intercommunication, burglar alarm, fire alarm, life support and all security alarms, private and public telephone and related telephone interconnect, public address, paging, audio, language, electronic, background music system less than line voltage or any system acceptable for class two wiring for private, commercial, or industrial use furnished by leased wire, frequency modulation or other recording devices, electrical apparatus by means of which electricity is applied to the amplification, transmission, transference, recording or reproduction of voice, music, sound, impulses and video. Excluded from this Scope of Work - transmission, service and maintenance of background music. All of the above shall include the installation and transmission over fiber optics.

SOUND TECHNICIAN: Terminating, operating and performing final check-out

ELEC0569-006 06/06/2022

Work on street lighting; traffic signals; and underground systems and/or established easements outside of buildings

Rates Fringes

Traffic signal, street light and underground work

Utility Technician #1.....\$ 38.67 9.11

Utility Technician #2.....\$ 30.10 8.85

STREET LIGHT & TRAFFIC SIGNAL WORK:

UTILITY TECHNICIAN #1: Installation of street lights and traffic signals, including electrical circuitry, programmable controller, pedestal-mounted electrical meter enclosures and laying of pre-assembled cable in ducts. The layout of electrical systems and communication installation including proper position of trench depths, and radius at duct banks, location for manholes, street lights and traffic signals.

UTILITY TECHNICIAN #2: Distribution of material at jobsite, installation of underground ducts for electrical, telephone, cable TV land communication systems. The setting, leveling, grounding and racking of precast manholes, handholes and transformer pads.

 * ELEC0569-008 06/05/2023

	Rates	Fringes
ELECTRICIAN (Residential, 1-3 Stories).....	\$ 40.50	8.18

 ELEC1245-001 06/01/2022

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..	\$ 64.40	22.58
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 50.00	21.30
(3) Groundman.....	\$ 38.23	20.89
(4) Powderman.....	\$ 51.87	18.79

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

 ELEV0018-001 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 63.95	37.335+a+b

FOOTNOTE:

a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

	Rates	Fringes
OPERATOR: Power Equipment		
(All Other Work)		
GROUP 1.....	\$ 51.90	30.70
GROUP 2.....	\$ 52.68	30.70
GROUP 3.....	\$ 52.97	30.70
GROUP 4.....	\$ 54.46	30.70
GROUP 5.....	\$ 48.96	25.25
GROUP 6.....	\$ 54.68	30.70
GROUP 8.....	\$ 54.79	30.70
GROUP 9.....	\$ 49.29	25.25
GROUP 10.....	\$ 54.91	30.70
GROUP 11.....	\$ 49.41	25.25
GROUP 12.....	\$ 55.08	30.70
GROUP 13.....	\$ 55.18	30.70
GROUP 14.....	\$ 55.21	30.70
GROUP 15.....	\$ 55.29	30.70
GROUP 16.....	\$ 55.41	30.70
GROUP 17.....	\$ 55.58	30.70
GROUP 18.....	\$ 55.68	30.70
GROUP 19.....	\$ 55.79	30.70
GROUP 20.....	\$ 55.91	30.70
GROUP 21.....	\$ 56.08	30.70
GROUP 22.....	\$ 56.18	30.70
GROUP 23.....	\$ 56.29	30.70
GROUP 24.....	\$ 56.41	30.70
GROUP 25.....	\$ 56.58	30.70

OPERATOR: Power Equipment		
(Cranes, Piledriving & Hoisting)		
GROUP 1.....	\$ 53.25	30.70
GROUP 2.....	\$ 54.03	30.70
GROUP 3.....	\$ 54.32	30.70
GROUP 4.....	\$ 54.46	30.70
GROUP 5.....	\$ 54.68	30.70
GROUP 6.....	\$ 54.79	30.70
GROUP 7.....	\$ 54.91	30.70
GROUP 8.....	\$ 55.08	30.70
GROUP 9.....	\$ 55.25	30.70
GROUP 10.....	\$ 56.25	30.70
GROUP 11.....	\$ 57.25	30.70
GROUP 12.....	\$ 58.25	30.70
GROUP 13.....	\$ 59.25	30.70

	Rates	Fringes
OPERATOR: Power Equipment (Tunnel Work)		
GROUP 1.....	\$ 54.53	30.70
GROUP 2.....	\$ 54.82	30.70
GROUP 3.....	\$ 54.96	30.70
GROUP 4.....	\$ 55.18	30.70
GROUP 5.....	\$ 55.29	30.70
GROUP 6.....	\$ 55.41	30.70
GROUP 7.....	\$ 55.71	30.70

PREMIUM PAY:

\$3.75 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator); Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 5: Equipment Greaser (Grease Truck/Multi Shift).

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford,

Case or similar; Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 9: Heavy Duty Repairman

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool

and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 11: Heavy Duty Repairman - Welder Combination, Welder - Certified.

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type

(over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.); Tower crane operator and tower gantry

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or

track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1S, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back

to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a thin strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM.

Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

 ENGI0012-004 08/01/2022

	Rates	Fringes
OPERATOR: Power Equipment		
(DREDGING)		
(1) Leverman.....	\$ 61.60	32.50
(2) Dredge dozer.....	\$ 55.63	32.50
(3) Deckmate.....	\$ 55.52	32.50
(4) Winch operator (stern winch on dredge).....	\$ 54.97	32.50
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 54.43	32.50
(6) Barge Mate.....	\$ 55.04	32.50

 IRON0229-001 01/01/2023

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 41.28	25.66
Ornamental, Reinforcing and Structural.....	\$ 46.20	34.30

PREMIUM PAY:

\$6.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland, Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB

\$4.00 additional per hour at the following locations:

Army Defense Language Institute - Monterey, Fallon Air Base,
Naval Post Graduate School - Monterey, Yermo Marine Corps
Logistics Center

\$2.00 additional per hour at the following locations:

Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LABO0089-001 07/01/2022

	Rates	Fringes
LABORER (BUILDING and all other Residential Construction)		
Group 1.....	\$ 37.68	22.44
Group 2.....	\$ 38.37	22.44
Group 3.....	\$ 39.12	22.44
Group 4.....	\$ 39.98	22.44
Group 5.....	\$ 41.60	22.44
LABORER (RESIDENTIAL CONSTRUCTION - See definition below)		
(1) Laborer.....	\$ 35.58	20.77
(2) Cleanup, Landscape, Fencing (Chain Link & Wood).	\$ 34.29	20.77

RESIDENTIAL DEFINITION: Wood or metal frame construction of single family residences, apartments and condominiums - excluding (a) projects that exceed three stories over a garage level, (b) any utility work such as telephone, gas, water, sewer and other utilities and (c) any fine grading work, utility work or paving work in the future street and public right-of-way; but including all rough grading work at the job site behind the existing right of way

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete Screeding for Rought Strike-off; Concrete, water curing; Demolition laborer; Flagman; Gas, oil and/or water pipeline laborer; General Laborer; General clean-up laborer; Landscape laborer; Jetting laborer; Temporary water and air lines laborer; Material hoseman (walls, slabs, floors and decks); Plugging, filling of Shee-bolt holes; Dry packing of concrete; Railroad maintenance, Repair Trackman and road beds, Streetcar and railroad construction trac

laborers; Slip form raisers; Slurry seal crews (mixer operator, applicator operator, squeegee man, Shuttle man, top man), filling of cracks by any method on any surface; Tarman and mortar man; Tool crib or tool house laborer; Window cleaner; Wire Mesh puling-all concrete pouring operations

GROUP 2: Asphalt Shoveler; Cement Dumper (on 1 yard or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute man, pouring concrete, the handling of the chute from ready mix trucks, such as walls, slabs, decks, floors, foundations, footings, curbs, gutters and sidewalks; Concrete curer-impervious membrane and form oiler; Cutting torch operator (demolition); Guinea chaser; Headboard man-asphalt; Laborer, packing rod steel and pans; membrane vapor barrier installer; Power broom sweepers (small); Riiprap, stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Tank sealer and cleaner; Tree climber, faller, chain saw operator, Pittsburgh Chipper and similar type brush shredders; Underground laborers, including caisson bellower

GROUP 3: Buggymobile; Concrete cutting torch; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2 1/2 feet drill steel or longer; Dri Pak-it machine; High sealer (including drilling of same); Hydro seeder and similar type; Impact wrench, multi-plate; Kettlemen, potmen and men applying asphalt, lay-kold, creosote, line caustic and similar type materials (applying means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operators of pneumatic, gas, electric tools, vibrating machines, pavement breakers, air blasting, come-along, and similar mechanical tools not separately classified herein; Pipelayers back up man coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rotary Scarifier or multiple head concrete chipping scarifier; Steel header board man and guideline setter; Tampers, Barko, Wacker and similar type; Trenching machine, handpropelled

GROUP 4: Asphalt raker, luterman, ironer, asphalt dumpman and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), Grinder or sander; Concrete saw man; cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Laser beam in connection with laborer's work; Oversize concrete vibrator operator 70 pounds and over; Pipelayer performing all services in the laying, installation and all forms of connection of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all

forms of tubular material, whether pipe, metallic or non-metallic, conduit, and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid, gas, air or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzleman), Porta shot-blast, water blasting

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller-all power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power.

LABO0089-002 11/01/2020

	Rates	Fringes
LABORER (MASON TENDER).....	\$ 33.00	19.23

LABO0089-004 07/01/2022

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
Laborers:		
Group 1.....	\$ 38.80	22.44
Group 2.....	\$ 39.27	22.44
Group 3.....	\$ 39.72	22.44
Group 4.....	\$ 40.62	22.44
Group 5.....	\$ 43.58	22.44

LABORER CLASSIFICATIONS

GROUP 1: Laborer: General or Construction Laborer, Landscape Laborer. Asphalt Rubber Material Loader. Boring Machine Tender (outside), Carpenter Laborer (cleaning, handling, oiling & blowing of panel forms and lumber), Concrete Laborer, Concrete Screeding for rough strike-off, Concrete water curing. Concrete Curb & Gutter laborer, Certified Confined Space Laborer, Demolition laborer & Cleaning of Brick and lumber, Expansion Joint Caulking; Environmental Remediation, Monitoring Well, Toxic waste and Geotechnical Drill tender, Fine Grader, Fire Watcher, Limbers, Brush Loader, Pilers and Debris Handlers. flagman. Gas Oil and Water Pipeline Laborer. Material Hoseman (slabs, walls,

floors, decks); Plugging, filling of shee bolt holes; Dry packing of concrete and patching; Post Holer Digger (manual); Railroad maintenance, repair trackman, road beds; Rigging & signaling; Scaler, Slip-Form Raisers, Filling cracks on any surface, tool Crib or Tool House Laborer, Traffic control (signs, barriers, barricades, delineator, cones etc.), Window Cleaner

GROUP 2: Asphalt abatement; Buggymobile; Cement dumper (on 1 yd. or larger mixers and handling bulk cement); Concrete curer, impervious membrane and form oiler; Chute man, pouring concrete; Concrete cutting torch; Concrete pile cutter; driller/Jackhammer, with drill steel 2 1/2 feet or longer; Dry pak-it machine; Fence erector; Pipeline wrapper, gas, oil, water, pot tender & form man; Grout man; Installation of all asphalt overlay fabric and materials used for reinforcing asphalt; Irrigation laborer; Kettleman-Potman hot mop, includes applying asphalt, lay-klold, creosote, lime caustic and similar tyhpes of materials (dipping, brushing, handling) and waterproofing; Membrane vapor barrier installer; Pipelayer backup man (coating, grouting, making of joints, sealing caulkiing, diapering including rubber basket joints, pointing); Rotary scarifier, multiple head concrete chipper; Rock slinger; Roto scraper & tiller; Sandblaster pot tender; Septic tank digger/installer; Tamper/wacker operator; Tank scaler & cleaner; Tar man & mortar man; Tree climber/faller, chainb saw operator, Pittsburgh chipper & similar type brush shredders.

GROUP 3: Asphalt, installation of all frabrics; Buggy Mobile Man, Bushing hammer; Compactor (all types), Concrete Curer - Impervious membrane, Form Oiler, Concrete Cutting Torch, Concrete Pile Cutter, Driller/Jackhammer with drill steel 2 1/2 ft or longer, Dry Pak-it machine, Fence erector including manual post hole digging, Gas oil or water Pipeline Wrapper - 6 ft pipe and over, Guradrail erector, Hydro seeder, Impact Wrench man (multi plate), kettleman-Potman Hot Mop includes applying Asphalt, Lay-Kold, Creosote, lime caustic and similar types of materials (dipping, brushing or handling) and waterproofing. Laser Beam in connection with Laborer work. High Scaler, Operators of Pneumatic Gas or Electric Tools, Vibrating Machines, Pavement Breakers, Air Blasting, Come-Alongs and similar mechanical tools, Remote-Controlled Robotic Tools in connection with Laborers work. Pipelayer Backup Man (Coating, grouting, m makeing of joints, sealing, caulking, diapering including rubber gasket joints, pointing and other services). Power Post Hole Digger, Rotary Scarifier (multiple head concrete chipper scarifier), Rock Slinger, Shot Blast equipment (8 to 48 inches), Steel Headerboard Man and Guideline Setter,

Tamper/Wacker operator and similar types, Trenching Machine hand propelled.

GROUP 4: Any worker exposed to raw sewage. Asphalt Raker, Luteman, Asphalt Dumpman, Asphalt Spreader Boxes, Concrete Core Cutter, Concrete Saw Man, Cribber, Shorer, Head Rock Slinger. Installation of subsurface instrumentation, monitoring wells or points, remediation system installer; Laborer, asphalt-rubber distributor bootman; Oversize concrete vibrator operators, 70 pounds or over. Pipelayer, Prefabricated Manhole Installer, Sandblast Nozzleman (Water Balsting-Porta Shot Blast), Traffic Lane Closure.

GROUP 5: Blasters Powderman-All work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Horizontal directional driller, Boring system, Electronic tracking, Driller: all power drills excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and all other types of mechanical drills without regard to form of motive power. Environmental remediation, Monitoring well, Toxic waste and Geotechnical driller, Toxic waste removal. Welding in connection with Laborer's work.

LABO0300-005 08/01/2022

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 39.23	23.28

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LABO0345-001 07/01/2022

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 48.50	21.37
GROUP 2.....	\$ 47.55	21.37
GROUP 3.....	\$ 44.01	21.37

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall

receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0" above base level and which work must be performed in whole or in part more than 75'-0" above base level, that work performed above the 75'-0" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LABO1184-001 07/01/2022

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 40.69	18.25
(2) Vehicle Operator/Hauler.	\$ 40.86	18.25
(3) Horizontal Directional Drill Operator.....	\$ 42.71	18.25
(4) Electronic Tracking Locator.....	\$ 44.71	18.25
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 41.90	21.32
GROUP 2.....	\$ 43.20	21.32
GROUP 3.....	\$ 45.21	21.32
GROUP 4.....	\$ 46.95	21.32

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and

preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

LAB01414-003 08/03/2022

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 38.92	23.32
PLASTER TENDER.....	\$ 41.47	23.32

Work on a swing stage scaffold: \$1.00 per hour additional.

Work at Military Bases - \$3.00 additional per hour:
 Coronado Naval Amphibious Base, Fort Irwin, Marine Corps Air Station-29 Palms, Imperial Beach Naval Air Station, Marine Corps Logistics Supply Base, Marine Corps Pickle Meadows, Mountain Warfare Training Center, Naval Air Facility-Seeley, North Island Naval Air Station, Vandenberg AFB.

PAIN0036-001 07/01/2020

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 29.59	17.12
(2) All Other Work.....	\$ 33.12	17.24

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

 PAIN0036-010 09/01/2022

	Rates	Fringes
DRYWALL FINISHER/TAPER		
(1) Building & Heavy Construction.....	\$ 39.54	21.50
(2) Residential Construction (Wood frame apartments, single family homes and multi-duplexes up to and including four stories).....	\$ 32.27	14.70

 PAIN0036-012 10/01/2022

	Rates	Fringes
GLAZIER.....	\$ 47.90	20.71

 PAIN0036-019 06/01/2022

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 34.77	17.89

 PLAS0200-005 08/03/2022

	Rates	Fringes
PLASTERER.....	\$ 47.37	19.64

NORTH ISLAND NAVAL AIR STATION, COLORADO NAVAL AMPHIBIOUS BASE, IMPERIAL BEACH NAVAL AIR STATION: \$3.00 additional per hour.

 PLAS0500-001 07/01/2018

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER		
GROUP 1.....	\$ 26.34	19.77
GROUP 2.....	\$ 27.99	19.77
GROUP 3.....	\$ 30.07	21.12

CEMENT MASONS - work inside the building line, meeting the following criteria:

GROUP 1: Residential wood frame project of any size; work classified as Type III, IV or Type V construction; interior tenant improvement work regardless the size of the project; any wood frame project of four stories or less.

GROUP 2: Work classified as type I and II construction

GROUP 3: All other work

 PLUM0016-006 09/01/2022

	Rates	Fringes
PLUMBER, PIPEFITTER, STEAMFITTER		
Camp Pendleton; Vandenberg Air Force Base.....	\$ 59.68	26.26
Work ONLY on new additions and remodeling of commercial buildings, bars, restaurants, and stores not to exceed 5,000 sq. ft. of floor space.....	\$ 53.51	25.28
Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....	\$ 40.95	23.61
All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 55.18	26.26

 PLUM0016-011 09/01/2022

	Rates	Fringes
PLUMBER/PIPEFITTER		
Residential.....	\$ 43.66	22.18

PLUM0345-001 09/01/2022

	Rates	Fringes
PLUMBER		
Landscape/Irrigation Fitter..\$	38.20	25.65
Sewer & Storm Drain Work....\$	42.29	23.03

ROOF0045-001 07/01/2022

	Rates	Fringes
ROOFER.....\$	39.90	11.19

SFCA0669-001 01/01/2023

	Rates	Fringes
SPRINKLER FITTER.....\$	44.99	25.72

SHEE0206-001 07/01/2020

	Rates	Fringes
SHEET METAL WORKER		
Camp Pendleton.....\$	42.62	29.55
Except Camp Pendleton.....\$	40.62	29.55
Sheet Metal Technician.....\$	30.51	9.49

SHEET METAL TECHNICIAN - SCOPE:
a. Existing residential buildings, both single and multi-family, where each unit is heated and/or cooled by a separate system
b. New single family residential buildings including tracts.
c. New multi-family residential buildings, not exceeding five stories of living space in height, provided each unit is heated or cooled by a separate system. Hotels and motels are excluded.
d. LIGHT COMMERCIAL WORK: Any sheet metal, heating and air conditioning work performed on a project where the total construction cost, excluding land, is under \$1,000,000
e. TENANT IMPROVEMENT WORK: Any work necessary to finish interior spaces to conform to the occupants of commercial buildings, after completion of the building shell

TEAM0166-001 07/01/2022

	Rates	Fringes
Truck drivers:		
GROUP 1.....\$	28.15	24.82
GROUP 2.....\$	38.74	24.82

	Rates	Fringes
GROUP 3.....	\$ 38.94	24.82
GROUP 4.....	\$ 39.14	24.82
GROUP 5.....	\$ 39.34	24.82
GROUP 6.....	\$ 39.83	24.82
GROUP 7.....	\$ 41.34	24.82

FOOTNOTE: HAZMAT PAY: Work on a hazmat job, where hazmat certification is required, shall be paid, in addition to the classification working in, as follows: Levels A, B and C - +\$1.00 per hour. Workers shall be paid hazmat pay in increments of four (4) and eight (8) hours.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Fuel Man, Swamper

GROUP 2: 2-axle Dump Truck, 2-axle Flat Bed, Concrete Pumping Truck, Industrial Lift Truck, Motorized Traffic Control, Pickup Truck on Jobsite

GROUP 3: 2-axle Water Truck, 3-axle Dump Truck, 3-axle Flat Bed, Erosion Control Nozzleman, Dump Crete Truck under 6.5 yd, Forklift 15,000 lbs and over, Prell Truck, Pipeline Work Truck Driver, Road Oil Spreader, Cement Distributor or Slurry Driver, Bootman, Ross Carrier

GROUP 4: Off-road Dump Truck under 35 tons 4-axles but less than 7-axles, Low-Bed Truck & Trailer, Transit Mix Trucks under 8 yd, 3-axle Water Truck, Erosion Control Driver, Grout Mixer Truck, Dump Crete 6.5yd and over, Dumpster Trucks, DW 10, DW 20 and over, Fuel Truck and Dynamite, Truck Greaser, Truck Mounted Mobile Sweeper 2-axle Winch Truck

GROUP 5: Off-road Dump Truck 35 tons and over, 7-axles or more, Transit Mix Trucks 8 yd and over, A-Frame Truck, Swedish Cranes

GROUP 6: Off-Road Special Equipment (including but not limited to Water Pull Tankers, Athey Wagons, DJB, B70 Wuclids or like Equipment)

GROUP 7: Repairman

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on

- a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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10. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968:

- 10.1.** The work to be performed under this contract is on a project assisted under a program providing direct Federal financial assistance from the Department of Housing and Urban Development and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u. Section 3 requires that to the greatest extent feasible opportunities for training and employment be given lower income residents of the project area and contracts for work in connection with the project be awarded to business concerns which are located in or owned in substantial part by persons residing in the area of the project.
- 10.2.** The parties to this contract will comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of Housing and Urban Development set forth in 24 CFR Part 75, and all applicable rules and orders of the Department issued thereunder prior to the execution of this contract. The parties to this contract certify and agree that they are under no contractual or other disability which would prevent them from complying with these requirements.
- 10.3.** The Contractor will send to each labor organization or representative of workers with which he has a collective bargaining agreement or other contract or understanding, if any, a notice advising the said labor organization or workers' representative of his commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.
- 10.4.** The Contractor will include this Section 3 clause in every subcontract for work in connection with the project and will, at the direction of the applicant for or recipient of Federal financial assistance, take appropriate action pursuant to the subcontract upon a finding that the Subcontractor is in violation of regulations issued by the Secretary of Housing and Urban Development, 24 CFR Part 75. The Contractor will not subcontract with any Subcontractor where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR Part 75 and will not let any subcontract unless the Subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.
- 10.5.** Compliance with the provisions of Section 3, the regulations set forth in 24 CFR Part 75, and all applicable rules and orders of the Department issued thereunder prior to the execution of the contract, shall be a condition of the Federal financial assistance provided to the project, binding upon the applicant or recipient for such assistance, its successors and assigns. Failure to fulfill these requirements shall subject the applicant or recipient, its Contractors and Subcontractors, its successors, and assigns to those sanctions specified by the grant or loan agreement or contract through which Federal assistance is provided, and to such sanctions as are specified by 24 CFR Part 75.

11. FEDERAL LABOR STANDARDS PROVISIONS*:

A. APPLICABILITY

The Project or Program to which the construction work covered by this Contract pertains is being assisted by the United States of America, and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

(1) MINIMUM WAGES

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment, computed at rates not less than those contained in the wage determination of the Secretary of Labor (which is attached hereto and made a part hereof), regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4).

Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH1321)) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place, where it can be easily seen by the workers.

(ii) Additional Classifications.

- (A) Any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:
 - (1) The work to be performed by the classification requested is not performed by a classification in the wage determination;
 - (2) The classification is utilized in the area by the construction industry; and
 - (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- (B) If the contractor, the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division ("Administrator"), Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210. The Administrator, or an authorized representative, will approve,

modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget ("OMB") under OMB control number 1235-0023.)

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, or HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1235-0023.)

(D) The wage rate (including fringe benefits, where appropriate) determined pursuant to subparagraphs (1)(ii)(B) or (C) of this paragraph, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1235-0023.)

(2) Withholding. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the U.S. Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work, all or part of the wages required by the contract, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the contractor,

disbursesuch amounts withheld for and on account of the contractor or subcontractor to the respective employees to whom they are due. The U.S. Department of Labor shall make such disbursements in the case of direct Davis-Bacon Act contracts.

(3) Payrolls and basic records.

(i) Maintaining Payroll Records. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification(s), hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid.

Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1235-0023 and 1215-0018)

(ii) Certified Payroll Reports.

(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead, the payrolls only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/agencies/whd/forms> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to HUD or its designee if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the payrolls to the applicant sponsor, or owner, as the case may be, for transmission to HUD or its designee, the contractor, or the Wage

and Hour Division of the U.S. Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this subparagraph for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to HUD or its designee. (Approved by the Office of Management and Budget under OMB Control Number 1235-0008.)

- (B)** Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (1)** That the payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR 5.5(a)(3)(i), and that such information is correct and complete;
 - (2)** That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;
 - (3)** That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract; and
 - (C)** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by subparagraph (a)(3)(ii)(b).
 - (D)** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.
- (iii)** The contractor or subcontractor shall make the records required under subparagraph (a)(3)(i) available for inspection, copying, or transcription by authorized representatives of HUD or its designee or the U.S. Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and Trainees.

- (i) Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer

and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency (where appropriate), to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination.

Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program.

If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed, unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe

benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under 29 CFR Part 5 shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR Part 3, which are incorporated by reference in this Contract.

(6) Subcontracts. The contractor or subcontractor will insert in any subcontracts the clauses contained in subparagraphs (1) through (11) in this paragraph (a) and such other clauses as HUD or its designee may, by appropriate instructions, require, and a copy of the applicable prevailing wage decision, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this paragraph.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act Requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this Contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and HUD or its designee, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of Eligibility.

(i) By entering into this Contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(ii) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded HUD contracts or participate in HUD programs pursuant to 24 CFR Part 24.

(iii) Anyone who knowingly makes, presents, or submits a false, fictitious, or fraudulent statement, representation or certification is subject to criminal, civil and/or administrative sanctions, including fines, penalties, and imprisonment (e.g., 18 U.S.C. §§ 287, 1001, 1010, 1012; 31 U.S.C. §§ 3729, 3802).

(11) Complaints, Proceedings, or Testimony by Employees. No laborer or mechanic, to whom the wage, salary, or other labor standards provisions of this Contract are applicable, shall be discharged or in any other manner discriminated against by the contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this Contract to his employer.

B. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The provisions of this paragraph (b) are applicable where the amount of the prime contract exceeds **\$100,000**. As used in this paragraph, the terms “laborers” and “mechanics” include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work, which may require or involve the employment of laborers or mechanics, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek, unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph B(1) of this paragraph, the contractor, and any subcontractor responsible therefore, shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph B(1) of this paragraph, **in the sum set by the U.S. Department of Labor at 29 CFR 5.5(b)(2)** for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by the clause set forth in subparagraph B(1) of this paragraph. In accordance with the Federal Civil Penalties Inflation Adjustment Act of 1990 (28 U.S.C. § 2461 Note), the DOL adjusts this civil monetary penalty for inflation no later than January 15 each year.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the U.S. Department of Labor, withhold or cause to be withheld from any moneys payable on account of work performed by the contractor or subcontractor under any such contract, or any other Federal contract with the same prime contract, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages, as provided in the clause set forth in subparagraph B(2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph B (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs B (1) through (4) of this paragraph.

C. HEALTH AND SAFETY

The provisions of this paragraph (c) are applicable where the amount of the prime contract exceeds **\$100,000**.

- (1)** No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
- (2)** The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.
- (3)** The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

*HUD-4010 (Revision 06/2022) ref. Handbook 1344.1 (Previous editions are obsolete)

12. AGENCY SPECIFIC PROVISIONS:

Note: Failure to comply with these specifications e.g., taking the specified steps prior to Bid opening and submitting the forms with the Bid, will lead to the Bid being declared **non-responsive** and, therefore, shall be rejected.

12.1. CDBG HUD Requirements:

12.1.1. Affirmative Good Faith Effort Steps shall include the steps listed at 2 CFR 200.321(b), set forth below:

- 1. Placing qualified DBE business enterprises on solicitation lists;
- 2. Assuring that DBE business enterprises are solicited whenever they are potential sources;
- 3. Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBE business enterprises;
- 4. Establishing delivery schedules, where the requirement permits, which encourage participation by DBE business enterprises;

5. Using the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce; and
6. Requiring the Subcontractors to take the affirmative steps listed in this section.
7. See "DBE Potential Resources Centers" Section in these specifications. Include a completed copy of the form AA61, "List of Work Made Available" with the GFE documentation.

13. DBE POTENTIAL RESOURCES CENTERS:

- 13.1.** Utilization of US Small Business Administration and Minority Business Development Agency (MBDA) resources is required at no cost. These agencies offer several services, including Internet access to databases of DBEs.
- 13.2.** For additional assistance, the recipient or contractor can telephone the local offices of both agencies in their area (SBA Minority Enterprise Development Offices and DOC MBDA Regional Centers). The Internet web sites also include names, addresses, and phone or fax numbers of local SBA and MBDA centers. Do not write to these sources
- 13.3.** The Contractor shall provide documentation that the local SBA/MBDA offices or web sites were notified of the contracting bid opportunity at least 15 Working Days prior to Bid opening and solicitation to DBE subcontractors at least 10 Working Days prior to Bid opening. Documentation shall not only include the efforts to contact the information sources and list the Contract opportunity, but also the solicitation and response to the bid request.
- 13.4.** Include qualified DBEs on solicitation lists and record the information on Form AA63. Solicitation shall be as broad as possible.
- 13.5.** If DBE sources are not located, explain why and describe the efforts made.
- 13.6.** The Contractor shall send invitations to at least 3 (or all, if less than 3) DBE vendors for each item of work referred by sources contacted. The invitations shall adequately specify the items for which bids are requested. The record of "good faith" efforts shall indicate a real desire for a positive response, such as a certified mail receipt or a documented telephone conversation.
- 13.7.** A regular letter or an unanswered telephone call is not an adequate "good faith" effort. A list of all sub-bidders, including the bidders not selected and non DBE Subcontractors, and bid amount for each item of the Work shall be submitted on Form AA62. If a low bid was not accepted, an explanation shall be provided.

13.8. Federal Agencies (must be contacted and solicitations posted on their websites):

Name and Address	Telephone and Web Site
U.S. Small Business Administration	(415) 744-6820 Extension 0
455 Market Street, Suite 600 San Francisco, CA 94105	Dynamic Small Business Search: http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm ¹
	Bid Notification: https://eweb1.sba.gov/subnet/common/dsp_login.cfm ²
U.S. Department of Commerce	213-989-3153 or 213-353-9400
Minority Business Development Agency	Websites: https://www.mbda.gov/business-center/los-angeles-mbda-business-center
1055 Wilshire Blvd Suite 900 Los Angeles, CA 91107	

13.9. State Agencies (must be contacted):

Name and Address	Telephone and Web Site
California Department of Transportation	(916) 227-9599
(CALTRANS) Business Enterprise Program ⁴	<u>DBE Database:</u> https://dot.ca.gov/programs/civil-rights/dbe-search and https://californiaucp.dbesystem.com/
Mailing Address: PO Box 942874 Sacramento, CA 94274-0015	
1820 Alhambra Blvd. Sacramento, CA 95816	
CA Public Utilities Commission (CPUC)⁵	
505 Van Ness Avenue San Francisco, CA 94102-3298	<u>Directory:</u> https://sch.thesupplierclearinghouse.com/FrontEnd/SearchCertifiedDirectory.asp

Notes:

1. The Contractor shall use the SBA's Dynamic Business Search database to search for potential subcontractors, suppliers, and/or manufacturers. Bidder **must** provide a copy of all search records for items of work made available with GFE documentation.
2. Contractor shall use SUB-Net to post subcontracting opportunities. Contractor shall post Subcontractor opportunities at least 15 Working Days prior to bid opening. Small businesses can review this web site to identify opportunities in their areas of expertise. The web site is designed primarily as a place for large businesses to post solicitations and notices. Bidder **must** provide copy of the Display Solicitation Record identifying the date solicitation notice was posted with the GFE documentation.

3. The Contractors may use MBDA web portal to post subcontracting opportunities. If utilized, the Contractor shall post subcontractor opportunities at least 30 Calendar Days prior to Bid opening. Small businesses can review this web site to identify opportunities in their areas of expertise. The web site is designed primarily as a place for large businesses to post solicitations and notices. Provide copy of the Offer Overview with the GFE documentation.
4. Based on the federal DBE program, CALTRANS maintains a database and provides directories of minority and woman-owned firms. Bidder **must** provide a copy of all search records for items of work made available with GFE documentation.
5. CPUC maintains a database of DBE-owned business enterprises and serves to inform the public. Bidder **must** provide a copy of all search records for items of work made available with GFE documentation.

14. GOOD FAITH EFFORT DOCUMENTATION SUBMITTALS:

- 14.1.** The affirmative GFE steps documentation shall be submitted **within 4 Working Days after the Bid Opening**. If this documentation is not submitted when due, the City will declare the Bid non-responsive and reject it.
- 14.2.** The Contractor shall maintain the records documenting compliance with requirements including documentation of its GFE and data relied upon in formulating its fair share objectives.

15. FORMS:

- 15.1.** The Contractor shall demonstrate that efforts were made to attract DBEs on this contract. The Contractor and Subcontractors shall take the steps listed in these specifications to assure that DBEs are used whenever possible as sources of supplies, construction, equipment, or services. In addition to the specified GFE documentation, the Bidder shall submit the following forms:

15.1.1. The following forms shall be completed and submitted within **4 Working Days after the Bid Opening**. Failure to include any of the forms shall cause the Bid to be deemed **non-responsive**.

1. Form AA61- List of Work Made Available
2. Form AA62 - Summary of Bids Received
3. Form AA63 - Good Faith Effort List of Subcontractors Solicited

15.1.2. The following forms shall be submitted upon award of construction projects that include CDBG funding:

1. Form AA64 - MBE/WBE Information
2. Form AA65 - Section 3 Outreach Methods
(Only if CDBG funding **exceeds a threshold of \$200,000.**)

15.1.3. The following forms shall be submitted prior to completion of construction projects that **exceed a threshold of \$200,000** of CDBG funding received.

1. Form AA66 - MBE/WBE Information – No Change Certification

2. Form AA67 - Section 3 Worker Certification

(Only if CDBG funding **exceeds a threshold of \$200,000** and there were Section 3 Workers and/or Targeted Section 3 Workers that completed labor hours for the project.)

3. Form AA68 - Section 3 Project Closeout Report

(Only if CDBG funding **exceeds a threshold of \$200,000.**)

FUNDING AGENCY PROVISIONS

FORMS

LIST OF WORK MADE AVAILABLE

List items of the Work the Bidder made available to DBE firms. Identify those items of the Work the Bidder might otherwise perform with its own forces and those items that have been broken down into economically feasible units to facilitate DBE participation. For each item listed, show the dollar amount and percentage of the Base Bid. The Bidder must demonstrate that enough work to meet the goal was made available to DBE firms.

ITEM OF WORK MADE AVAILABLE	NAICS CODE	BIDDER NORMALLY PERFORMS ITEM (Y/N)	ITEM BROKEN DOWN TO FACILITATE PARTICIPATION (Y/N)	AMOUNT	PERCENTAGE OF BASE BID

Form AA61 List of Work Made Available

SUMMARY OF BIDS RECEIVED

Type of Job	NAICS CODES	Company Name	Selected (Y/N)	Bid Amount	DBE	Non-DBE	Explanation for not Selecting

Form AA62 Summary of Bids Received

USE ADDITIONAL FORMS AS NECESSARY

**DISADVANTAGE BUSINESS ENTERPRISE (DBE)
GOOD FAITH EFFORT LIST OF SUBCONTRACTORS SOLICITED**

Contractor Name	Contractor Address	How Located	Date of Contact	Contact Method	Task Description	Response (Yes/No)

Form AA63 DBE Good Faith Effort List of Subcontractors Solicited **USE ADDITIONAL FORMS AS NECESSARY**

**City of San Diego Community Development Division - CDBG Program
Minority Businesses and Women Business Enterprises Information Form**

Organization Name: _____
 Organization Address: _____
 Organization Employer Identification Number: _____
 Organization Contact Person (MBE/WBE Info): _____
 Organization Contact Person Phone: _____
 Organization Contact Person E-mail: _____

PREPARER CERTIFICATION	
I hereby certify that, to the best of my knowledge and belief, the contents in this report are true and correct.	
Full Name of Report Preparer:	Preparer's Signature:
Preparer's Job Title:	Date Signed:
Preparer's Email:	Preparer's Phone:

Please report all contracts and subcontracts paid with City of San Diego CDBG Funds.

PC or SUB	Amount of Contract or Subcontract (CDBG only)	Type of CPD Trade Code (See below)	Contractor or Subcontractor Business Owner Racial/Ethnic Code (See below)	Woman-Owned Business (Yes or No)	Prime Contractor/ Subcontractor Identification Number (Employer IRS Number)	Section 3 Contractor (Yes or No)	Contractor/Subcontractor Name and Address			
							Name	Street	City	Zip
PC										

- | | |
|---|---|
| 2: Type of Trade Codes: | 3: Racial/Ethnic Codes: |
| CPD:
1 = New Construction
2 = Education/Training
3 = Other

Housing:
1 = New Construction
2 = Substantial Rehab.
3 = Repair
4 = Service
5 = Projec Mgt. | 6= Professional
7= Tenant Services
8= Education/Training
9= Arch./Eng. Appraisal
10= Other

1 = White Americans
2 = Black Americans
3 = Native Americans
4 = Hispanic Americans
5 = Asian/Pacific Americans
6 = Hasidic Jews |

CITY DEPARTMENT CERTIFICATION	
I hereby certify that, to the best of my knowledge and belief, the contents in this report are true and correct.	
City Project Manager Signature:	Date Signed:
Preparer's Email:	Preparer's Phone:

Affirmative Good Faith Effort Steps shall include the steps listed at 2 CFR 200.321(b), listed below. Please select one of the options or provide a description of the outreach efforts that were completed to ensure the inclusion, to the maximum extent possible, of entities owned by minorities and women.

Organization:

- Placing qualified and small minority businesses and women's business enterprises on solicitation lists.
- Assuring that small minority business and women's business enterprises are solicited whenever there are potential resources.
- Dividing total requirements when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority and women's business enterprises.
- Establishing delivery schedules where the requirements permit which encourage participation by small and minority businesses and women's business enterprises.
- Using the services and assistance as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
- Requiring the Prime Contractor, if contracts are to be let, to take the affirmative steps previously listed in the options above.
- Other efforts attempted. Please describe below.

General/Prime Contractor:

- Placing qualified and small minority businesses and women's business enterprises on solicitation lists.
- Assuring that small minority business and women's business enterprises are solicited whenever there are potential resources.
- Dividing total requirements when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority and women's business enterprises.
- Establishing delivery schedules where the requirements permit which encourage participation by small and minority businesses and women's business enterprises.
- Using the services and assistance as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
- Requiring the Prime Contractor, if contracts are to be let, to take the affirmative steps previously listed in the options above.
- Other efforts attempted. Please describe below.

SECTION 3 SUMMARY REPORT – OUTREACH METHODS

Organization/Company Name	CDBG Funding Award Date
Name of Project	Project Address
Person Completing Form (name and title)	Telephone Number

SECTION 3 – REPORTING REQUIREMENTS AND BENCHMARKS

Section 3 is a provision of the Housing and Urban Development Act of 1968. The purpose of Section 3 is to ensure that employment and other economic opportunities generated by certain HUD financial assistance shall, to the greatest extent feasible, and consistent with existing Federal, State, and local laws and regulations, be directed to low and very low-income persons.

Particularly those who are recipients of government assistance for housing, and to business concerns which provide economic opportunities to low- and very low-income persons

For construction projects awarded that exceed a threshold of \$200,000 of Federal Community Development Block Grant (CDBG) funding, all contractors are required to comply with Section 3 requirements.

The Benchmarks for Section 3 labor hours are 25%, which means 20% of the total labor hours for a construction project should be completed by Section 3 workers.

The Benchmarks for Targeted Section 3 labor hours is 5%, which means 5% of the total labor hours for a construction project should be completed by Targeted Section 3 workers.

SECTION 3 – OUTREACH ATTEMPTS

Indicate the efforts made to direct the employment and other economic opportunities generated by HUD financial assistance for housing and community development programs, to the greatest extent feasible, toward low income people and Section 3 businesses. Proof of these efforts must be submitted as part of required documentation. (Check all that apply.)

- Engaged in efforts to generate job applicants that are Targeted Section 3 Workers.
- Provided training or apprenticeship opportunities.
- Provided technical assistance to help Section 3 Workers compete for jobs (e.g., resume assistance, coaching).
- Provided or connected Section 3 Workers with assistance in seeking employment including: drafting resumes, preparation for interviews, and finding job opportunities connecting residents to job placement services.

- Held one or more job fairs.
- Provided or referred Section 3 Workers to services supporting job readiness and retention (e.g., work readiness activities, interview clothing, test fees, transportation, childcare).
- Provided assistance to apply for/or attend community college, a four-year educational institution, or vocational technical training.
- Assisted Section 3 Workers to obtain financial literacy training/and or coaching.
- Engaged in outreach events to identify and secure bids from Section 3 business concerns.
- Provided technical assistance to help Section 3 business concerns understand and bid on contracts.
- Divided contracts into smaller jobs to facilitate participation by Section 3 business concerns.
- Provided bonding assistance, guaranties, or other efforts to support viable bids from Section 3 business concerns.
- Promoted use of business registries designed to create advantages for disadvantaged or small businesses.
- Outreach, engagement or referrals with the state one-stop system as defined in Section 121 (e)(2) of the Workforce Innovation and Opportunity Act.
- Other efforts. Please describe below.

By submitting this form, my organization/company certifies that the information provided on this form is true, complete, accurate, and meets HUD Section 3 reporting requirements in accordance with 24 CFR Part 75.

Signature Print Name and Title Date

MBE INFORMATION FORM - NO CHANGE CERTIFICATION
GENERAL CONTRACTOR

Organization Name: _____

Organization Address: _____

Project Name: _____

Project Address: _____

I certify there have been no changes to the MBE Information form previously submitted for this project.

Signature of Authorized Signing Official/Representative

Date

Print Name of Authorized Signing Official/Representative

Print Title of Authorized Signing Official/Representative

Print Email of Authorized Official

Section 3 Worker Certification Form

Employee Name	Project Name
Employee's Address	City, State, Zip Code

Section 3 Worker (24 CFR 75.5) Definition

(1) Any worker who currently fits at least one of the following eligibility categories listed below, as documented on file. (Select any of the options below that apply.)

- Worker is employed by a certified Section 3 business concern.
- Worker is a participant of a YouthBuild Program.
- Worker's annual income for the previous year is below 80% of the Area Median Income (AMI) limit established by HUD. Please see the table below.

HUD 2021 CDBG Income Limit	1 Person 80% of AMI
City of San Diego	\$67,900

Targeted Section 3 Worker [24 CFR 75.21 (a)] Definition

(2) Any worker who currently fits at least one of the following eligibility categories listed below, as documented on file. (Select any options below that apply.)

- Worker is employed by a certified Section 3 business concern.
- Worker lives in the neighborhood or service area of the project.
- Worker is a participant of a YouthBuild Program.

By signing this document, I certify that I am a Section 3 Worker and/or Targeted Section 3 Worker based on the selection of one or more of the eligibility categories listed above.

Signature
Date

SECTION 3 SUMMARY CLOSEOUT REPORT- PRIME CONTRACTOR/SUBCONTRACTOR

Organization/Company Name		Contract Award Date	
Name of Project		Project Address	
Person Completing Form (name and title)		Telephone Number	
Total Dollar Amount of Construction Contracts Awarded (All funding sources) \$		Total Dollar Amount of CDBG Construction Contracts Awarded (CDBG only) \$	
Section 3 Registered Business? <input type="checkbox"/> Yes <input type="checkbox"/> No	Women Business Enterprise (WBE)? <input type="checkbox"/> Yes <input type="checkbox"/> No	Minority Business Enterprise (MBE)? <input type="checkbox"/> Yes <input type="checkbox"/> No	

SECTION 3 – REPORTING REQUIREMENTS AND BENCHMARKS

Section 3 is a provision of the Housing and Urban Development Act of 1968. The purpose of Section 3 is to ensure that employment and other economic opportunities generated by certain HUD financial assistance shall, to the greatest extent feasible, and consistent with existing Federal, State, and local laws and regulations, be directed to low and very low-income persons.

Particularly those who are recipients of government assistance for housing, and to business concerns which provide economic opportunities to low and very low-income persons.

For construction projects awarded that exceed a threshold of \$200,000 of Federal Community Block Grant (CDBG) funding, all contractors are required to comply with Section 3 requirements.

The Benchmarks for Section 3 labor hours are 25%, which means 20% of the total labor hours for a construction project should be completed by Section 3 workers.

The Benchmarks for Targeted Section 3 labor hours is 5%, which means 5% of the total labor hours for a construction project should be completed by Targeted Section 3 workers.

In the table below list the total number of construction workers for this project. Additionally, list the number of workers hired within the year that qualify under the HUD criteria listed on Page 2.

24 CFR 75.25 – Reporting Tables

Construction Trades (i.e., Carpentry, Electrical, Drywall, Plumbing, etc.)	Total Number of Section 3 Workers	Total Number of Labor Hours Worked	Total Number of Labor Hours Worked by Section 3 Workers

Construction Trades (i.e., Carpentry, Electrical, Drywall, Plumbing, etc.)	Total Number of Targeted Section 3 Workers	Total Number of Labor Hours Worked	Total Number of Labor Hours Worked by Targeted Section 3 Workers

HUD - ELIGIBILITY CRITERIA

Section 3 Worker

- Worker is employed by a Section 3 business concern.
- Worker is a YouthBuild participant.
- The Worker’s annual income for the previous calendar year is below does not exceed 80% of the Area Median Income (AMI) limit established by HUD. Please see the table below.

HUD 2021 CDBG Income Limit	1 Person 80% of AMI
City of San Diego	\$67,900

Section 3 Targeted Worker

- Worker is employed by a Section 3 business concern.
- Worker lives in the neighborhood or service area of the project.
- Worker is a YouthBuild participant.

Section 3 Business Concern

- At least 51 percent of a business is owned by very low or low-income persons.
- Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers.
- A business at least 51 percent owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

By signing and submitting this form, my organization/company certifies that the information provided on this form is true, complete, accurate, and meets HUD Section 3 reporting requirements in accordance with 24 CFR Part 75.

Signature
Name and Title
Date

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:
 1. General Provisions (A) for all Construction Contracts.

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

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

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

Holiday	Observed On
Juneteenth	June 19

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

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

SECTION 2 - SCOPE OF THE WORK

2-2 **PERMITS, FEES, AND NOTICES.** To the "WHITEBOOK", ADD the following:

2. The Contractor will obtain the following permits:
 - a) Building Permit

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.

3-9 TECHNICAL STUDIES AND SUBSURFACE DATA. To the "WHITEBOOK", ADD the following:

5. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests at the Work Site:
 - a) GeoTechnical Evaluation Report Egger South Bay Community Park Improvements, dated 12-11-2018, by Ninyo & Moore.
6. The reports listed above are available for review at the following link:

<https://drive.google.com/drive/folders/1zgrH4kV7aOu1g9b9CMpEUTUoB24si6hj?usp=sharing>

SECTION 4 - CONTROL OF MATERIALS

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 15 Working Days prior to Bid** due date 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.

5-4.2.6 Contractors Builders Risk Property Insurance.

1. You shall provide at your expense, and maintain until Final Acceptance of the Work, a Special Form Builders Risk Policy or Policies. This insurance shall be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation) including the cost of excavations, grading, and filling. The policy or policies limits shall be 100 percent of the value of the Work under this Contract, plus 15 percent to cover administrative costs, design costs, and the costs of inspections and construction management.
2. Insured property shall include material or portions of the Work located away from the Site but intended for use at the Site and shall cover material or portions of the Work in transit. The policy or policies shall include as insured property scaffolding, falsework, and temporary buildings located at the Site. The policy or policies shall cover the cost of removing debris, including demolition.
3. The policy or policies shall provide that all proceeds shall be payable to the City as Trustee for the insured, and shall name the City, the Contractor, Subcontractors, and Suppliers of all tiers as named insured. The City, as Trustee, will collect, adjust, and receive all monies that become due and payable under the policy or policies, may compromise any and all claims, and will apply the proceeds of this insurance to the repair, reconstruction, or replacement of the Work.
4. Any deductible applicable to the insurance shall be identified in the policy or policies documents. The responsibility for paying the part of any loss not covered because of the deductibles shall be apportioned among the parties, except for the City, as follows: if there is more than one claimant for a single

occurrence, then each claimant shall pay a pro-rata share of the per occurrence deductible based upon the percentage of their paid claim to the total paid for insured. The City shall be entitled to 100 percent of its loss. You shall pay the City any portion of the loss not covered because of a deductible; at the same time the proceeds of the insurance are paid to the City as Trustee.

5. Any insured, other than the City, making claim to which a deductible applies shall be responsible for 100 percent of the loss not insured because of the deductible.

5-4.2.8 Architects and Engineers Professional Insurance (Errors and Omissions Insurance).

1. For Contracts with required engineering services, including Design-Build and preparation of engineered Traffic Control Plans (TCP) by you, you shall keep or require all of your employees and Subcontractors, who provide professional engineering services under Contract, to provide to the City proof of Professional Liability coverage with a limit of no less than **\$1,000,000** per claim and **\$2,000,000** aggregate per policy period of one year.
2. You shall ensure the following:
 - a) The policy retroactive date is on or before the date of commencement of the Project.
 - b) The policy will be maintained in force for a period of three years after completion of the Project or termination of the Contract, whichever occurs last. You agree that, for the time period specified above, there will be no changes or endorsements to the policy that affect the specified coverage.
3. If professional engineering services are to be provided solely by the Subcontractor, you shall:
 - a) Certify this to the City in writing, and
 - b) Agree in writing to require the Subcontractor to procure Professional Liability coverage in accordance with the requirements set forth here.

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.

5-4.5.5 Builders Risk Endorsements.

5-4.5.5.1 Waiver of Subrogation. The policy or policies shall be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and that arise from Work performed by the Named Insured for the City.

5-4.5.5.2 Builders Risk – Partial Utilization. If the City desires to occupy or use a portion or portions of the Work prior to Acceptance, the City will notify you, and you shall immediately notify your Builder's Risk insurer and obtain an endorsement that the policy or policies shall not be cancelled or lapse on account of any use or occupancy. You shall obtain the endorsement prior to the City's occupation and use.

5-4.6 Deductibles and Self-Insured Retentions. You shall disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided. The City may require you to purchase coverage with a lower retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City.

5-4.7 Reservation of Rights. The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles, and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer, but not required by this Contract.

5-4.8 Notice of Changes to Insurance. You shall notify the City, in writing, 30 days prior to any material change to the policies of insurance provided under this Contract. This written notice is in addition to the requirements of paragraph 6 of Section 5-4.1.

5-4.9 Excess Insurance. Policies providing excess coverage shall follow the form of the primary policy or policies, including, all endorsements.

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.
4. The **90 Calendar Day** Plant Establishment Period is included in the stipulated Contract Time and shall begin with the acceptance of installation of the vegetation plan in accordance with Section 801-6, “MAINTENANCE AND PLANT ESTABLISHMENT”.

ADD:

6-6.1.1 Environmental Document.

1. The City of San Diego has prepared a **Notice of Exemption** for **Egger South Bay Community Park ADA**, Project No. **S-15031.02.06**, as referenced in the Contract Appendix. You shall comply with all requirements of the **Notice of Exemption** as set forth in **Appendix A**.
2. Compliance with the City’s environmental document shall be included in the Contract Price, unless separate bid items have been provided.

6-9 LIQUIDATED DAMAGES. To the “WHITEBOOK”, item 2, DELETE in its entirety and SUBSTITUTE with the following:

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

Contract Value	Liquidated Damages Daily Amount
Less than \$200,000	\$1,000
\$200,000 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

Contract Value	Liquidated Damages Daily Amount
\$10,000,001 to \$20,000,000	\$6,500
Greater Than \$20,000,000	\$7,000

SECTION 7 – MEASUREMENT AND PAYMENT

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

- The Lump Sum Bid item for “**Construction of Playground, Fitness Station, Multi-Purpose Court, and all Associated Work and Other Improvements**” shall include, and not be limited to, demolition of existing play areas and construction of new play area and fitness station, multi-purpose court, accessibility improvements, utility work, security lighting, landscaping, and parking lot resurfacing, as specified in the Plans (42448-1-D through 42448-62-D), Contract Documents, and Technicals Specification.

7-3.9 Field Orders. To the “WHITEBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

- 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 1,000,000	\$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:

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

SECTION 200 – ROCK MATERIALS

ADD:

200-5 STABILIZED DECOMPOSED GRANITE PAVING.

200-5.1 General.

200-5.1.1 Definitions and Applicable Standards.

1. References:
 - a) ASTM – American Society for Testing and Materials.
 - b) AASHTO – American Association of State Highway and Transportation Officials.
 - c) ADAAG – American with Disabilities Act Accessibility Guidelines.
 - d) CBC – California Building Code, Title 24 Disabled Access Regulations.
2. Definitions:
 - a) Percent Compaction: Per ASTM D1557, percentage of the maximum in-place dry density of the same material, as determined by the Geotechnical Engineer.
 - b) Stabilized Decomposed Granite Paving: Shall consist of a thoroughly pre-blended mixture (before placement) of Decomposed Granite material (fines) and Organic Binder (“Stabilizer”), that is set in lifts, reacted with water, and compacted in place, creating a universally accessible finished surface of Stabilized Decomposed Granite Paving.
3. Standards for Installation:
 - a) Standard Specifications: Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation (2018 CALTRANS).

200-5.1.2 Submittals.

1. Product/Material Data. Submit available product data, manufacturing source (name, address, and telephone number), and distributor source (name, address, and telephone number) for each type of material and product as follows:
 - a) Decomposed Granite Material.
 - b) Organic Binder.
 - c) Soil Sterilant (Herbicide).
2. Miscellaneous Data:
 - a) Material Test Reports: Submit certified copies of the field tests performed (testing the compressive strengths) of the Stabilized Decomposed Granite Paving finished surface.

- b) Recommendation: Submit written recommendation from the Manufacturer/Distributor of the Organic Binder, indicating the quantity (pounds) of Organic Binder required per ton of Decomposed Granite material (lbs./ton). Recommendation shall be specific to each type of Stabilized Decomposed Granite material specified herein.
- 3. Material Samples: Furnish the following Material Samples, bound and individually wrapped in re-sealable labeled plastic bags (as applicable):
 - a) Submit sample in sufficient quantity (one (1) pound minimum, per bag) of each Stabilized Decomposed Granite material (with and without Organic Binder) for review to ensure color will be compatible with the Project.
- 4. Field-Constructed Mock-up:
 - a) Build Field-Constructed Mock-up using materials and same base construction including special features for surface finish, compaction within lifts, color(s), and contiguous work, as indicated for the final unit of Work.
 - i. Locate Field-Constructed Mock-ups in a secure location as approved by the City's Representative. Mockups can be included as a part of the completed Work, but the City's Representative reserves the right to reject the Mock-up in which case the rejected Mock-up will be demolished, and another Mock-up erected for review.
 - ii. Notify the City's Representative when Field-Constructed Mock-ups will be erected.
 - iii. Demonstrate quality and range of aesthetic effects and workmanship in the Field-Constructed Mock-ups that will be produced in final unit of Work.
 - iv. Obtain the City's Representative's approval of Field-Constructed Mock-ups in writing, before the start of Work. Approved Mock-ups are a prerequisite to commencing Work under this Section.
 - b) Size: Each Field-Constructed Mock-up shall measure four-feet (4') wide and six-feet (6') long, and at the specified respective depth and compaction requirement of Stabilized Decomposed Granite Paving, to compare the aesthetics of material colors, textures, and finishes.
 - i. When the City's Representative determines that the Field-Constructed Mock-up does not meet requirements, retain it for reference and provide another Field-Constructed Mock-up until the Field-Constructed Mock-up is approved by the City's Representative.
 - c) Approved Field-Constructed Mock-up will be the standard by which remaining Work will be evaluated for technical and aesthetic merit.

5. Qualification Data: Submit names for firms and persons specified in the "Quality Assurance and Control" Article to demonstrate their capabilities and experience on similar Decomposed Granite installations.

200-5.1.3 Quality Assurance and Control.

1. Installer Qualifications:
 - a) Engage an experienced Installer who has completed Stabilized Decomposed Granite installations similar in material, design, and extent to that indicated for this Project, and whose work has resulted in construction with a record of successful in-service performance.
 - b) Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on the Project site during times that installations under this Section are in progress.
2. Source Limitations: Obtain each type of Stabilized Decomposed Granite material from the same Manufacturer's plant.
3. Single-Source Responsibility: Obtain each color, type, and/or variety of Stabilized Decomposed Granite material from a single source with resources to provide products and materials of consistent quality in appearance and physical properties without delaying the Work.
4. Manufacturer's Directions: Follow Manufacturer's directions and drawings in cases where the Manufacturers of articles used in this Section furnish directions covering points not shown in the Contract Drawings and Contract Specifications.

200-5.1.4 Delivery, Storage, and Handling.

1. Protect Stabilized Decomposed Granite material from contamination with foreign materials. Isolate stockpiles to prevent mixing of different aggregate grades prevent contamination with organic materials.
2. Deliver perishable material in original, unopened packaging. Protect from dampness.
3. Deliver and install Stabilized Decomposed Granite materials so as to not delay Work and install only after preparations for installation have been completed.

200-5.1.5 Coordination, Scheduling, and Observations.

1. Verify conditions at the Project Site for Work that affects installation under this Section. Coordinate materials of other Sections to be provided as part of Work under this Section.
2. Utilities: Determine location of above grade and underground utilities and perform Work in a manner which will avoid damage to utilities. Hand excavate,

as required. Maintain grade stakes until removal is mutually agreed upon by parties concerned.

3. Excavation: When conditions detrimental to installing Stabilized Decomposed Granite is encountered, such as rubble fill, adverse drainage conditions, or obstructions, cease installation operations and notify City's Representative for further direction.
4. Traffic Control: Maintain access for vehicular, bicycle, and pedestrian traffic as required for other construction activities during installation of Stabilized Decomposed Granite. Access shall also be unobstructed and maintained at all times to allow for entry and exit of emergency vehicles.
5. Grades and Levels: Establish and maintain required levels and grade elevations. Review installation procedures and coordinate Work herein this Section with other Work affected.
6. Installation: Perform installation of Stabilized Decomposed Granite only when weather and soil conditions during rain or while subbase is wet from rain. Do not apply Soil Sterilant when winds exceed 10 mph or during or immediately after rain.
7. Sequence and Scheduling:
 - a) Do not install Work under this Section prior to acceptance of sub-grade preparation Work under another Section.
 - b) Coordinate to insure proper placement of below-grade irrigation sleeves (per Sections 800 and 801) prior to installation of Stabilized Decomposed Granite Paving.
 - c) Provide Concrete Paving (per Sections 201 and 303) prior to placement of Stabilized Decomposed Granite Paving.
8. Contractor shall request, in writing, at least one (1) week in advance of the time when mandatory site observation(s) by the City's Representative are required.

200-5.1.6 Landscape Establishment Period.

1. During the duration of the Landscape Establishment Period, continuously maintain Stabilized Decomposed Granite finishes until Final Acceptance of Work is granted. Immediately repair damage to the Work as the result of weather or traffic conditions. Report damage resulting from Work of other trades after installation of Stabilized Decomposed Granite Work. Repair to match adjacent undisturbed Work.

200-5.2 Products.

200-5.2.1 Decomposed Granite Material.

1. Clean, hard, durable particles or fragmented fines of select crushed granite, river rock, or basalt. Material fines shall be evenly mixed throughout the aggregate. When produced from gravel, fifty percent (50%) by weight of the material retained on a No. 4 sieve shall have one (1) fractured face.
2. The portion retained on the No. 4 sieve shall have a maximum percentage of wear of 50 at 500 revolutions as determined by AASHTO T96-77.
3. Portion passing a No. 4 sieve shall have a maximum liquid limit of 25 and a maximum plasticity index of 7, as determined by AASHTO T89-81 and AASHTO 90-81 respectively.
4. Composition: Decomposed Granite material shall be free from clay lumps, vegetable matter, or deleterious material.
5. Grading Requirements:

Percentage of Weight Passing a Square Mesh Sieve (AASHTO T11-82 and T27-82)	
<u>Sieve Size</u>	<u>Percent Passing</u>
3/8"	100%
No. 4	95 – 100%
No. 8	75 – 80%
No.16	55 – 65%
No. 30	40 – 50%
No. 50	25 – 35%
No. 100	20 – 25%
No. 200	5 – 15%

6. Products & Manufacturers: Provide products by one (1) of the following:
 - a) Decomposed Granite Paving:
 - i. Type/Color: Refer to the Contract Drawings.
 - ii. Supplier: Refer to the Contract Drawings.
 - iii. Or equal.

200-5.2.2 Organic Binder.

1. Organic Binder: Non-toxic, colorless, odorless, non-staining, concentrated organic powder that, when water is applied and then compressed, binds the Decomposed Granite material together, creating a natural-appearing, firm surface of Stabilized Decomposed Granite Paving.
 - a) Material: Stabilizer®, Stabilizer Solutions, Inc., Phoenix, AZ.
 - i. Supplier:
 - A. KRC Rock, San Marcos, CA, ph. 800-427-0572.
 - B. Southwest Boulder & Stone, Fallbrook, CA, ph. 877.792.7625.
 - C. Or equal.
 - ii. Application Rate: Per Manufacturer's written recommendations. Minimum application rate of 12 lbs./ton.
 - b) Material: *Natracil™* Organic Binder.
 - i. Supplier:
 - A. Gail Materials, Corona, CA, 951-279-1095.
 - B. Or equal.
 - ii. Application Rate: Per Manufacturer's written recommendations. Minimum application rate of 12 lbs./ton.

200-5.2.3 Equipment.

1. Mixing Equipment: Batch-type, using revolving blades or rotary drum.
2. Compaction Equipment: Heavy lawn roller (minimum 225 pounds and maximum 30-inch width).

200-5.2.4 Accessories.

1. Soil Sterilant: Spray-applied, Non-Selective Post-Emergent Herbicide, for control of annual grasses and broadleaf weeds. Refer to Sections 800 and 801 – Landscaping and Irrigation. Apply in locations designated to receive Stabilized Decomposed Granite Paving only.
2. Aggregate Sub-Base: Class II, per "Standard Specifications", as required.
3. Water: Per ASTM C 94, from potable domestic source, and free from deleterious materials such as oils, acids, and organic matter. Transport as required.
4. Nonwoven Geotextile Filter Fabric:
 - a) Polypropylene or polyester fabric, 4.5 oz./sq. yd. minimum, with a tensile strength of 120 lbs, water flow rate of 135 g/mi/s.f. and UV Resistance of 70% composed of fibers formed into a stable network so

that fibers retain their relative position. Fabric shall be inert to biological degradation and resist naturally-encountered chemicals, alkalis, and acids.

- b) Product: "Mirafi 140 N" by Tencate, or approved equal.

200-5.3 Execution.

200-5.3.1 Examination.

1. Examine surfaces indicated to receive Stabilized Decomposed Granite Paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of surfacing.
2. Sub-grades shall have been rough graded to within 0.10 ft. of finish grades less depth in location to receive Stabilized Decomposed Granite Paving.
3. Insure all edging materials and irrigation sleeving have been installed and are in place and secured. Do not proceed with installation Work until unsatisfactory conditions have been corrected.

200-5.3.2 Preparation.

1. Application of Soil Sterilant:
 - a) Mixing: Mix Soil Sterilant product in sprayer tank with clean water, according to Manufacturer's current printed instructions. Use sprayer, which will apply the solution uniformly, without disturbing the soil.
 - b) Spray Solution: Shake or stir prior to each application. Apply to dry soil surface only.
 - c) Application: Provide Soil Sterilant only in locations designated to receive Stabilized Decomposed Granite Paving, as indicated on the Contract Drawings.
 - d) Over-spraying: Avoid spraying on walls, adjoining pavements, and all areas to receive landscape planting.
 - e) Depth: Immediately after application of spray solution, thoroughly incorporate the solution into the soil to a depth of two-inches (2") to four-inches (4"), per Manufacturer's current printed instructions.
2. Compaction: After completion of soil sterilization operations, compact sub-base to minimum 90% compaction, or as recommended by the Geotechnical Engineer.

200-5.3.3 Installation.

1. Compacted Sub-Grade:
 - a) Verification: Do not place Stabilized Decomposed Granite Paving prior to acceptance of sub-grade preparation.

- b) Compact Sub-Grade to a minimum of ninety percent (90%) compaction, or as recommended by the Geotechnical Engineer.
- 2. Installing Edging Materials: Install Edging Materials as indicated on the Contract Drawings. Edging Materials at the full depth of the perimeter of the Stabilized Decomposed Granite, as indicated. Edging Materials shall be straight or curving as required, and securely in place, true to line and grade as required. Align edging and set flush with adjacent paving where applicable.
- 3. Installing Concrete Paving Materials: Install Cast-in-Place Concrete Paving Materials as indicated on the Contract Drawings. Concrete Paving shall be aligned and set as required, and securely in place, true to line and grade as required.
- 4. Installing Geotextile Filter Fabric: Geotextile Filter Fabric shall be installed only in locations designated to receive Stabilized Decomposed Granite Paving. Install Fabric accordingly as indicated in the Contract Drawings to prevent weeds from growing up through the Stabilized Decomposed Granite Paving. Place the Geotextile Filter Fabric across the entire width of the Paving surface; overlap ends of Fabric rolls at a minimum of six inches (6").
- 5. Installing Stabilized Decomposed Granite Paving:
 - a) Verification: Verify locations to receive Stabilized Decomposed Granite Paving.
 - b) Lines and Levels:
 - i. Install Stabilized Decomposed Granite Paving true to grade, properly coinciding with adjacent Work and elevations.
 - ii. Provide a finished Stabilized Decomposed Granite Paving surface uniform in texture and appearance. Do not permit finished Work to vary more than 1/8 inch in 10 feet from true profile and cross section. Finished Work shall be installed to fully comply as a universally accessible pavement surface, per applicable Code requirements.
 - c) Mixing:
 - i. General: Stabilized Decomposed Granite Paving shall be thoroughly pre-blended before placement.
 - ii. Organic Binder: Thoroughly pre-blend Decomposed Granite material with Organic Binder at the rate recommended by the Organic Binder manufacturer for each type of Decomposed Granite material specified, but not less than of twelve (12) pounds of Organic Binder per one (1) ton of Decomposed Granite material (dry weight).
 - iii. It is essential the Organic Binder be thoroughly mixed, blended, and uniformly incorporated throughout the

Decomposed Granite material to achieve a successful result. The Organic Binder locks the fines in the Decomposed Granite material together, trapping the larger crushed aggregate screenings. The Organic Binder does not act directly on larger aggregate screenings. Proper mixing is a must for a successful application.

- iv. Blending is best accomplished in a plug mill; a truck mounted mixer or a portable mechanical mixer may also be used.
 - v. Blend Stabilized Decomposed Granite Paving mixture for a minimum of 15 minutes prior to placing on compacted sub-surface material.
 - vi. Drop spreading of Organic Binder over graded Decomposed Granite material is not acceptable. Mixing by roto-tilling is also not acceptable.
 - vii. Organic Binder shall not be applied during, just prior to, or immediately following rainfall.
- d) Placement:
- i. General: After pre-blending, place the Stabilized Decomposed Granite Paving material onto the compacted sub-surface material. Carefully place to avoid segregation in two (2) equal two-inch (2") lifts.
 - ii. Grade, screed, and smooth the Stabilized Decomposed Granite Paving to desired finish grades. Allow for compaction of the material.
- e) Watering: Apply water until moisture penetrates to the full depth of the Stabilized Decomposed Granite Paving.
- i. Water activates the Organic Binder; it is essential that the full depth of the Stabilized Decomposed Granite Paving is saturated at this time. Apply water from a handheld hose with a spray nozzle set to coarse spray. Water pressure should not disturb the leveled Paving surface. Do not use a water truck for water distribution or a high-pressure sprayer.
 - ii. Test for water penetration through random core inspections. After inspection of cores, fill cored holes with Paving removed; smooth and hand tamp to match adjoining surface grades.
 - iii. A one (1)-hour application at a rate of +/-20 GPM per 1,000 sq. ft. of surface seems to achieve the desired full depth moisture penetration.
 - iv. Let watered Stabilized Decomposed Granite Paving stand between six (6) to twenty-four (24) hours until all surface water has dissipated; the Paving surface should be moist, but not wet.

- f) Compacting: While the Stabilized Decomposed Granite Paving material is still thoroughly moist, compact to a minimum 90% relative compaction, or as recommended by the Geotechnical Engineer. Compact each area with at least four (4) passes of the compacting equipment. After compacting, screed smooth.
 - i. Compaction should be done with a heavy lawn roller (minimum 225 pounds and maximum 30-inch width) to achieve finish grade and compaction that is dense with a smooth uniform texture. Hand-tamp edges around benches, signposts, trash receptacles, etc. Do not use whackers, vibratory rollers or a vibrating plate tamper; the Stabilized Decomposed Granite Paving will not harden for weeks after vibration.
 - ii. If the Decomposed Granite Paving surface is flaky or sticks to the roller drum, the Paving hydration level is deficient; cautiously add more water as required to achieve the Paving's proper hydration level.
 - iii. If the roller creates a washboard effect or rills, additional time is required to allow the Paving to achieve the proper hydration level.
- g) Contaminated Areas: Do not permit Stabilized Decomposed Granite Paving to contaminate adjoining planting areas or finishes. Clean up and remove all material spilled into adjacent planting areas.
- h) Grading: When surface areas have been rolled and it becomes necessary to add a thin layer of Stabilized Decomposed Granite Paving material to bring the surface to grade, the previously rolled or compacted area shall be thoroughly scarified to a depth of two inches (2") to provide a bond with the added Material.
- i) Curing: Allow finished Stabilized Decomposed Granite Paving surface to dry completely. Set-up time varies, depending on weather conditions.

6. A hot, dry climate will set up sooner than a cool, moist climate.

200-5.3.4 Field Quality Control.

- 1. Tests: For each lift of Stabilized Decomposed Granite Paving, provide written verification as to the degree of compaction by a certified testing laboratory. Re-compact failed areas until specified compaction is achieved.
- 2. Testing shall be the sole financial responsibility of the Contractor.

200-5.3.5 Inspection.

1. Finished Stabilized Decomposed Granite Paving surfaces shall be smooth, uniform and solid, with no evidence of shipping or cracking. Dried, compacted material shall be firm through the entire depth, with no spongy areas. Loose material shall not be present on the surface initially. After the first year of use, a minor amount of loose material is expected on the surface of Stabilized Decomposed Granite Paving finishes.
2. Loose Stabilized Decomposed Granite Paving material on the surface or unconsolidated crushed aggregate screenings below the surface of Stabilized Decomposed Granite Paving finishes is evidence of improper bonding due to poor mixing or insufficient watering. Test the loose material for adequate Organic Binder by wetting, then tamping, and allowing it to dry. If the material still is unconsolidated, the Organic Binder did not get mixed adequately throughout the Stabilized Decomposed Granite Paving material. If the material now is solid, initial watering was insufficient. Cracking or sponginess is evidence of excessive Organic Binder in the mix.
3. Unconsolidated Stabilized Decomposed Granite Paving areas shall be excavated and replaced accordingly with new Stabilized Decomposed Granite Paving material with a high proportion of fines meeting the grading requirements above, and pre-blended with Organic Binder per the procedures listed above. Patched areas shall be wetted thoroughly and rolled smooth. Patching shall be completed prior to any surface smoothing.
4. Smoothing of Stabilized Decomposed Granite Paving: Significant irregularities shall be smoothed out prior to final acceptance of Work. Smoothing shall be accomplished by rewetting/saturating rough areas thoroughly, and then rolling the material again with a heavy lawn roller (minimum 225 pounds and maximum 30-inch width).
5. Tolerances of Stabilized Decomposed Granite Paving:
 - a) Depth: Final thickness of completed Stabilized Decomposed Granite Paving shall not vary more than 1/4-inch from dimension indicated in the Contract Drawings. Measurements may be taken by means of test holes taken at random, finished surfaces. Correct any variations in the thickness beyond the allowable 1/2 inch by repeating the procedures listed above.
 - b) Width: Final width of completed Stabilized Decomposed Granite Paving shall not vary more than 1/4-inch from typical dimension width as indicated. Measurements may be taken at random cross sections along the finished surface.
 - c) Where installed, no edges of the Geotextile Filter Fabric shall be exposed.

200-5.3.6 Repairs and Protection.

1. Damage or Defective Installation: Remove and replace Stabilized Decomposed Granite Paving that is damaged or defective or does not meet the requirements indicated herein this Section.
2. Replacement of Stabilized Decomposed Granite Paving: If compression tests of cored samples fail to meet the specified compressive strengths as recommended by the Manufacturer, immediately remove and replace the Stabilized Decomposed Granite Paving with material conforming to the Contract Specifications.
3. Protection: Protect Stabilized Decomposed Granite Paving finishes against traffic, injury, defacement or damage (by rain or other outside force during curing period) and subsequent construction operations until Substantial Completion. Exclude traffic from Stabilized Decomposed Granite Paving for a minimum of fourteen (14) days after placement. When construction traffic is permitted, it is the Contractor's responsibility to maintain Stabilized Decomposed Granite Paving as clean and level as possible by removing surface stains, spillage of materials as they occur, and traffic markings/grooves, etc., and to repair any damaged caused by said construction traffic.
4. Maintain Stabilized Decomposed Granite Paving finishes free of stains, discoloration, dirt, and other foreign material until Final Acceptance of Work.

200-5.3.7 Cleanup and Protection.

1. For Work under this Section, keep Work area in a clean, orderly, and safe condition. Contractor shall remove trash caused from his Work on a weekly basis throughout the duration of the Work.
2. Protect Stabilized Decomposed Granite Paving from damage due to landscape operations, operations by other Contractors and trades, and trespassers. Maintain protection during installation, establishment, and maintenance periods.
3. Upon completion of his Work under this Section, the Contractor shall remove rubbish, waste, debris, excess construction materials, and other items resulting from construction operations offsite as described herein this Section and directed by the City's Representative. Clean all adjoining Concrete Paving and edging free from excess Stabilized Decomposed Granite Paving material.

200-5.3.8 Final Review.

1. Final Review under this Section shall be performed upon completion of the Landscape Establishment Period.

SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS

201-3 EXPANSION JOINT FILLER AND JOINT SEALANTS.

201-3.1 **General.** To the “GREENBOOK”, ADD the following:

1. All paving surfaces shall have a one-half inch (½") expansion joint perpendicular to the curb line and spaced at a maximum of twenty feet (20') on center, unless otherwise indicated on the plans. Expansion joints shall also be located where sidewalk work abuts restraining surfaces such as buildings, curbs, or perimeter appurtenances (such as light standards or drain or manhole structures), dissimilar floor surfaces, and columns where changes occur in backing materials. All expansion control, construction and seismic joints in the existing substrate shall continue through sidewalk work.

ADD:

201-10 PRECAST CONCRETE SITE FURNISHINGS.

201-10.1 **General.**

201-10.1.1 **Submittals.**

1. Product Data: For each type of product indicated.
 - a) Manufacturer’s standard product literature
 - b) Shop drawings
 - c) Installation instructions
 - d) Maintenance instructions
2. Samples for Verification: For each type of exposed finish indicated.

201-10.1.2 **Quality Assurance.**

3. Source Limitations: Obtain each type of site furnishings through one source from a single manufacturer.

201-10.1.3 **Delivery, Storage and Handling.**

1. Handle products in accordance with manufacturer’s instructions.
2. Store products in manufacturer’s original packaging until ready for installation.
3. Protect products from impacts and abrasion during storage.

201-10.1.4 **Warranty.**

1. Provide manufacturer’s standard warranty.
2. Warranty Terms: One year from date of invoice against defects in materials and workmanship.

201-10.2 Products.

201-10.2.1 Picnic Table.

1. Manufacturer: Outdoor Creation Inc., (530) 365-6106, or approved equal.
2. Size and Configuration: per Drawings
3. Materials: Precast Concrete, with minimum compressive strength of 5000 psi
4. Color and Finish: per Drawings
5. Sealer: Nano Tech Barrier

201-10.2.2 Bench.

1. Manufacturer: Outdoor Creation Inc., (530) 365-6106, or approved equal.
2. Size and Configuration: per Drawings
3. Material: Precast Concrete, with minimum compressive strength of 5000 psi
4. Color and Finish: per Drawings
5. Sealer: Nano Tech Barrier

201-10.2.3 Trash and Recycling Receptacles.

1. Manufacturer: Outdoor Creation Inc., (530) 365-6106, or approved equal.
2. Size and Configuration: per Drawings
3. Materials:
 - a) Body: Precast Concrete, with minimum compressive strength of 5000 psi
 - b) Door: 3/16" powder coated steel with white vinyl decal
4. Color and Finish: per Drawings
5. Sealer: Nano Tech Barrier
6. Graphics: Provide cast-in Trash and Recycle logo on back of receptacle, painted.

201-10.2.4 Hot Coal Receptacle.

1. Manufacturer: Outdoor Creation Inc., (530) 365-6106, or approved equal.
2. Size and Configuration: per Drawings
3. Material: Precast Concrete, with minimum compressive strength of 5000 psi
4. Color and Finish: per Drawings
5. Sealer: Nano Tech Barrier

201-10.3 Execution.

201-10.3.1 Examination.

1. Verify substrates are stable and capable of supporting weight of items covered under this section.
2. Verify substrates have been adequately prepared to securely anchor items that will be surface mounted.

201-10.3.2 Installation.

1. Install according to the manufacturer's installation instructions.
2. Install in conformance to applicable ADA guidelines and End User's established accessibility policies.

SECTION 206 – MISCELLANEOUS METAL ITEMS

ADD:

206-8 METAL SITE FURNISHINGS.

206-8.1 General.

206-8.1.1 Submittals.

1. Product Data: For each type of product indicated.
 - a) Manufacturer's standard product literature
 - b) Shop drawings
 - c) Installation instructions
 - d) Maintenance instructions
2. Samples for Verification: For each type of exposed finish indicated.

206-8.1.2 Quality Assurance.

1. Source Limitations: Obtain each type of site furnishings through one source from a single manufacturer.

206-8.1.3 Delivery, Storage and Handling.

1. Handle products in accordance with manufacturer's instructions.
2. Store products in manufacturer's original packaging until ready for installation.
3. Protect products from impacts and abrasion during storage.

206-8.1.4 Warranty.

1. Provide manufacturer's standard warranty.
2. Warranty Terms: One year from date of invoice against defects in materials and workmanship.

206-8.2 Products.

206-8.2.1 ADA Accessible Route Guide Sign.

1. Manufacturer: ADA Sign Depot, (858) 385-9095, or approved equal.
2. Model: per Drawings.
3. Materials: .063 rust-free aluminum.
4. Features:
 - a) Engineer grade prismatic reflective sign face
 - b) Pre-drilled holes for easy mounting
5. Mounting: Provide mounting hardware and installation instructions.

206-8.2.2 BBQ Grill.

1. Manufacturer: Burke, (800) 356-2070, or approved equal.
2. Model: per Drawings.
3. Materials:
 - a) One piece all welded construction box consisting of 7 GA HRPO sheet steel and a malleable iron casting mount.
 - b) One piece all welded construction grill consisting of ½" sheet rod and zinc plated spring handles.
 - c) Support Tube: 2 3/8" OD x 12 GA galvanized steel tubing.
4. Finish: Baked on powder coating.
5. Mounting Hardware: Zinc plated hex head cap screw and lock nut.

206-8.2.3 Drinking Fountain.

1. Manufacturer: Haws, (775) 359-4712, or approved equal.
2. Model: per Drawings.
3. Components/Materials:
 - a) 3/16" galvanized-steel pedestal with powder coating.
 - b) Push-button operated stainless-steel valves with front-accessible cartridge and flow adjustment.
 - c) Polished chrome-plated brass vandal-resistant shielded bubbler heads.
 - d) Large-opening bottle filler with quick-fill 1 gpm flow rate.
 - e) 100% lead-free waterways.
 - f) Polished chrome-plated vandal-resistant waste strainers with top-down clean-out access on fountains.
 - g) Vandal-resistant access plates.

- h) Integral mounting feet.
- i) 1-1/2" slip waste.
- 4. Color: per Drawings.
- 5. Mounting: Provide mounting hardware and installation instructions.

206-8.2.4 Basketball Hoop.

- 1. Manufacturer: Burke, (800) 356-2070, or approved equal.
- 2. Model: per Drawings.
- 3. Cap Casting, Support Casting: Hot-dipped galvanized, grade 32510, malleable iron.
- 4. 4' Offset Backboard Post: One piece all welded construction consisting of 4 1/2" OD x sch. 40 galvanized steel pipe, 1/4" HR steel plate, and 1 1/2" x 1 1/2" x 1/4" HR steel angle.
- 5. Rectangle Backboard Steel: One piece all welded construction consisting of 4' x 6' x 12 GA steel sheet with a 1 1/2" reinforced perimeter and 12 GA channel braces. Primed and finished with baked on powder coat on front side. Coated with sound-deadening rust inhibitor on back side.
- 6. Hardware Package: Zinc plated steel carriage bolts, hex head cap screws, lock nuts and lock washers.
- 7. Double Rim Goal with Nylon Net: 18" diameter regulation size rim, 5/8" round steel, no-tie clips and nylon net. Rim is finished with an orange baked on powder coat.
- 8. Mounting: Provide mounting hardware and installation instructions.

206-8.2.5 SkyWays Single Layer Hex – 45'.

- 1. Manufacturer: Landscape Structures, Inc., (888) 436-6574, or approved equal.
- 2. Hub
 - a) Materials: Weldment comprised of 1" (25,4 mm) thick steel plate ASTM A 36, 3/4" (19,05 mm) thick steel plate ASTM A 36, 1/4" (6,35 mm) thick steel plate ASTM A 36, 12" (305 mm) O.D. steel tubing and 6" (152 mm) x 10" (254 mm) x 1/4" (6,35 mm) wall steel tubing (HRS) ASTM A 500.
 - b) Finish: Polyester Powdercoat
 - c) Color: per Drawings.
- 3. Columns
 - a) Materials: Weldment comprised of 1" (25,4 mm) thick steel plate ASTM A 36, 1-1/2" (38,1 mm) thick steel plate ASTM A 36, and 10" (254 mm) x 10" (254 mm) x 1/4" (6,35 mm) wall steel tubing (HRS) ASTM A 500.

- b) Finish: Polyester Powdercoat
 - c) Color: per Drawings.
4. Elbow
- a) Materials: Weldment comprised of 1" (25,4 mm) thick steel plate ASTM A 36, 3/4" (19,05 mm) thick steel plate ASTM A 36, and 6" (152 mm) x 10" (254 mm) x 1/4" (6,35 mm) wall steel tubing (HRS) ASTM A 500.
 - b) Finish: Polyester Powdercoat
 - c) Color: per Drawings.
5. Hip Rafter
- a) Materials: Weldment comprised of 3/4" (19,05 mm) thick steel plate ASTM A 36, and 6" (152 mm) x 10" (254 mm) x 1/4" (6,35 mm) wall steel tubing (HRS) ASTM A 500.
 - b) Finish: Polyester Powdercoat
 - c) Color: per Drawings.
6. Fabric
- a) Materials: Heavy duty, 62.9 mils (1.6 mm) thick professional grade shade fabric for tensioned structures and other shade applications. Made from UV stabilized HDPE monofilament and tape yarns. Specialized lock stitch knit for more air movement and better channeling of cooling breezeways. Constructed to block up to 97.7% of harmful UV sun rays. Fade and tear resistant, will not crack, rot or fray. Tensile strength warp 142.75 lbs. weft 560.67 lbs. Tear strength warp 42.03 lb. and weft 80.70 lbs. Burst pressure 507.63 PSI. Live loads 5 psf. Remove fabric when wind speed is expected to exceed 105 mph and snow load is expected to exceed 5 psf, per International Building Code (IBC) 2012.
 - b) Color: per Drawings.
7. Exposed Hardware:
- a) Materials: Grade 8 Yellow Zinc.
8. Anchoring Hardware
- a) Materials: Carbon Steel.

206-8.2.6 SkyWays Single Layer Hex – 35’.

- 1. Manufacturer: Landscape Structures, Inc., (888) 436-6574, or approved equal.
- 2. Hub
 - a) Materials: Weldment comprised of 3/4" (19,05 mm) thick steel plate ASTM A 36, 1/4" (6,35 mm) thick steel plate ASTM A 36, 4.5" (114 mm)

- O.D. x .188" (4,77 mm) wall steel tubing ASTM A 500 and 10" (254 mm) SCH 40 steel tubing (HRS).
 - b) Finish: Polyester Powdercoat
 - c) Color: per Drawings.
- 3. Columns
 - a) Materials: Weldment comprised of 1" (25,4 mm) thick steel plate ASTM A 36, 3/4" (19,05 mm) thick steel plate ASTM A 36, 4" (102 mm) O.D. x 188" (4,77 mm) wall steel tubing ASTM A 500 and 5" (127 mm) x 5" (127mm) x 1/4" (6.35 mm) wall steel tubing (HRS) ASTM A 500.
 - b) Finish: Polyester Powdercoat
 - c) Color: per Drawings.
- 4. Hip Rafter
 - a) Materials: Weldment comprised of 1/2" (12,7 mm) thick steel plate ASTM A 36, 4.5" (114 mm) O.D. x .188" (4,77 mm) wall steel tubing ASTM A 500 and 4" (102 mm) O.D. x .188" (4,77 mm) wall steel tubing ASTM A 500.
 - b) Finish: Polyester Powdercoat
 - c) Color: per Drawings.
- 5. Fabric
 - a) Materials: Heavy duty, 62.9 mils (1.6 mm) thick professional grade shade fabric for tensioned structures and other shade applications. Made from UV stabilized HDPE monofilament and tape yarns. Specialized lock stitch knit for more air movement and better channeling of cooling breezeways. Constructed to block up to 97.7% of harmful UV sun rays. Fade and tear resistant, will not crack, rot or fray. Tensile strength warp 142.75 lbs. weft 560.67 lbs. Tear strength warp 42.03 lb. and weft 80.70 lbs Burst pressure 507.63 PSI. Live loads 5 psf. Remove fabric when wind speed is expected to exceed 105 mph and snow load is expected to exceed 5 psf, per International Building Code (IBC) 2012.
 - b) Color: per Drawings.
- 6. Exposed Hardware:
 - a) Materials: Grade 8 Yellow Zinc.
- 7. Anchoring Hardware
 - a) Materials: Carbon Steel.

206-8.3 Execution.

206-8.3.1 Examination.

1. Verify substrates are stable and capable of supporting weight of items covered under this section.
2. Verify substrates have been adequately prepared to securely anchor items that will be surface mounted.

206-8.3.2 Installation.

1. Install according to the manufacturer's installation instructions.
2. Install in conformance to applicable ADA guidelines and End User's established accessibility policies.

206-9 PLAY & CIRCUIT FITNESS EQUIPMENT.

206-9.1 PlayBooster, Evos, Weevos & Freestanding Play (Circuit Fitness Equipment).

206-9.1.1 Manufacturer.

1. Landscape Structures, Inc., (888) 436-6574, or approved equal.

206-9.1.2 Materials.

1. All materials shall be structurally sound and suitable for safe play. Durability shall be ensured on all steel parts by the use of time-tested coatings such as zinc plating, galvanizing, ProShield[®] finish, TenderTuff[®] coating, etc. Colors shall be specified.

206-9.1.3 Fasteners.

1. Primary fasteners shall be socketed and pinned tamperproof in design, stainless-steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications). All primary fasteners shall include a locking patch type material that will meet the minimum torque requirements of IFI-125. Manufacturer to provide special tools for pinned tamperproof fasteners.

206-9.1.4 TenderTuff Coating.

1. Metal components to be TenderTuff coated shall be thoroughly cleaned in a hot phosphating wash system, then primed with a water-based thermosetting solution. Primed parts shall be preheated prior to dipping in UV stabilized, liquid polyvinyl chloride (PVC), then salt cured at approximately 400 degrees. The finished coating shall be approximately .080" thick at an 85 durometer with a minimum tensile strength of 1700 psi and a minimum tear strength of 250 lbs/inch. Standard colors are available, all with a matte finish.

206-9.1.5 ProShield Finish.

1. All metal components with ProShield finish shall be thoroughly cleaned and pretreated through a multi-stage wash system. Parts are then thoroughly dried, preheated and processed through a set of powder spray guns where a minimum .002" of epoxy primer is applied. A minimum .004" of architectural-

grade Super Durable polyester TGIC powder is applied. The average ProShield film thickness is .006". ProShield is formulated and tested per the following ASTM standards. Each color must meet or exceed the ratings listed below:

- a) Hardness (D3363) rating 2H
- b) Flexibility (D522) pass 1/8" mandrel
- c) Impact (D2794) rating minimum 80 inch-pounds
- d) Salt Fog Resistance (B117 and D1654) 4,000 hours and rating 6 or greater
- e) UV Exposure (G154, 340 bulb) 3,000 hours, rating delta E of 2, and 90 percent gloss retention*
- f) Adhesion (D3359, Method B) rating 5B
- g) The Paint Line shall employ a checkered adhesion test daily.
- h) Standard colors are available.

* Certain colors may exceed delta E of 2. Contact Landscape Structures for exceptions.

206-9.1.6 Decks.

1. All decks shall be of modular design and have 5/16" diameter holes on the standing surface. There shall be a minimum of (4) slots in each face to accommodate face mounting of components. Decks shall be manufactured from a single piece of low carbon 12 GA (.105") sheet steel conforming to ASTM specification A-1011. The sheet shall be perforated with a return flange on the perimeter to provide the reinforcement necessary to ensure structural integrity. There shall be no unsupported area larger than 3.5 square feet. The unit shall then be TenderTuff-coated brown or gray only. Decks shall be designed so that all sides are flush with the outside edge of the supporting posts. Not applicable for Evos or Weevos.

206-9.1.7 Concrete Products.

1. Two processes are used to produce concrete products. (See specific product installation/ specification documents.)
 - a) Glass Fiber Reinforced Concrete (GFRC)
 - i. Products: Glass fiber is alkali-resistant (AR) with high tensile properties formulated for concrete. GFRC nominal product thickness is 1" with a unit weight of about 12 lbs. per square foot and an average ultimate flexural strength of 2,100 psi per ASTM C947.
 - ii. Finish: Exterior latex paint suited for concrete applications.
 - b) Precast Concrete

- i. Products: Wet-cast solid, molded concrete with an average compressive strength of 5,000 psi per ASTM C39. Unit weight range of about 115-145 lbs. per cubic foot.
- ii. Finish: Exterior latex paint suited for concrete applications.

206-9.1.8 Rotationally Molded Polyethylene Parts.

1. These parts shall be molded using prime natural linear low-density polyethylene having a tensile strength of 2400 psi per ASTM D638. Rotational molding resin is compounded with color and UV-stabilizing additives with a nominal wall thickness typically 1/4" with some variation depending upon product type. Standard colors are available.

206-9.1.9 Recycled Permalene Parts.

1. These parts shall be manufactured from 3/4" high-density polyethylene that has been specially formulated for optimum UV stability and color retention. Products shall meet or exceed density of .960 G/cc per ASTM D1505, tensile strength of 2400 PSI per ASTM D638. Available in a three-layer product with (2) 100" thick colored exterior layers over a .550" thick recycled Black interior core. Standard colors are available.

206-9.1.10 Footings.

1. Unless otherwise specified, the bury on all footings shall be 34" below Finished Grade (FG) on all in-ground play events/posts. Other types of anchoring are available upon request.

206-9.1.11 Hardware Packages.

1. All shipments shall include individual component-specific hardware packages. Each hardware package shall be labeled with the part number, description, a component diagram showing the appropriate component, package weight, a bar code linking the hardware package to the job number, assembler's name, date and time the package was assembled, work center number and work order number.

206-9.1.12 Installation Documentation.

1. All shipments shall include a notebook or packet of order-specific, step-by-step instructions for assembly of each component, including equipment assembly diagrams, estimated hours for assembly, footing dimensions, concrete quantity for direct bury components, fall height information, area required information and detailed material specifications.

206-9.1.13 Packing List.

1. All shipments shall include a packing list for each skid/container, specifying the part numbers and quantities on each skid or within each container.

206-9.1.14 Packaging.

1. All components shall be individually wrapped or bulk wrapped and placed on skids (pallets) then shrink-wrapped to provide protection during shipment. Small parts and hardware packages will be placed in crates for shipment. Other components shall be individually wrapped or bulk wrapped to provide protection during shipment.

206-9.1.15 Maintenance Kit.

1. An order-specific maintenance kit shall be provided for each structure order. The kit will include a notebook or packet with a second set of installation documents and order-specific maintenance documentation with recommendations on how often to inspect, what to look for and what to do to keep the equipment in like-new condition. The kit also includes touch-up primer, appropriate color touch-up paint, sandpaper, appropriate color touch-up PVC and additional installation tools for the tamperproof fasteners.

206-9.2 PlayBooster.

206-9.2.1 Posts.

1. Post length shall vary depending upon the intended use and shall be a minimum of 42" above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a finished grade marker positioned on the post identifying the 34" bury line required for correct installation and the top of the loose fill protective surfacing. Top caps for posts shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with (3) self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of the post to increase the footing area.

206-9.2.2 Steel Posts.

1. All steel PlayBooster posts are manufactured from 5" O.D. tubing with a wall thickness of .120" and shall be galvanized after rolling and shall have both the I.D. and the cut ends sprayed with a corrosion resistant coating.
2. Steel Post Mechanical Properties.
 - a) Yield Strength (min): 50,000 PSI
 - b) Tensile Strength (min): 55,000 PSI
 - c) Elongation: 25% in 2 inches
 - d) Modulus of Elasticity: 29.5 x 10⁶ PSI

206-9.2.3 Aluminum Posts.

1. All aluminum PlayBooster posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5" outside diameter with a .125" wall thickness.
2. Aluminum Post Mechanical Properties.
 - a) Yield Strength (min): 35,000 PSI
 - b) Tensile Strength (min): 38,000 PSI
 - c) Elongation: 10% in 2 inches
 - d) Modulus of Elasticity: 10 x 10⁶ PSI

206-9.2.4 Arch Posts.

1. Aluminum arch posts shall be manufactured from 6005-T5 alloy. The arch shall be formed to a 21" center line radius to complement the 42" center-to-center module. The arch shall be of one continuous piece construction. There shall be no welds or additional pieces mechanically fastened to manufacture the arch. Each arch shall be designed to provide a minimum of 90 1/2" clear span from the deck to the inside of the arch at the radius peak. Arches shall be ProShield finished to a specified color.

206-9.2.5 Clamps.

1. All clamps are ProShield finished and, unless otherwise noted, shall be die cast using a 369.1 aluminum alloy and have the following mechanical properties:
 - a) Ultimate Tensile: 47,000 PSI
 - b) Yield Strength: 28,000 PSI
 - c) Elongation: 7% in 2 inches
 - d) Shear Strength: 29,000 PSI
 - e) Endurance Limit: 20,000 PSI
2. Each functional clamp assembly shall have an appropriate number of half clamps and shall be fastened to mating parts with (2) 3/8" x 1 1/8" pinned button head cap screws (SST) and (2) stainless-steel (SST) recessed nuts. A 1/4" aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.
3. PlayBooster clamps have three functional applications and shall be named as follows:
 - a) Offset hanger clamp assembly
 - b) Deck hanger clamp assembly
 - c) Hanger clamp assembly

4. Netplex Clamps: All clamps are ProShield finished and, unless otherwise noted, shall be die cast using a 369.1 aluminum alloy and have the following mechanical properties:
 - a) Ultimate Tensile: 47,000 PSI
 - b) Yield Strength: 28,000 PSI
 - c) Elongation: 7% in 2 inches
 - d) Shear Strength: 29,000 PSI
 - e) Endurance Limit: 20,000 PSI
5. Each functional clamp assembly shall have an appropriate number of rope clamps and back clamps and shall be fastened to each other with (2) 5/8" x 1 1/2" pinned button head cap screws (SST) and (2) stainless-steel (SST) recessed nuts. Either a face clamp shall be fastened to rope clamp with (2) 3/8" by 1-3/8" pinned button head cap screws or a single tab casting plate shall be fastened to rope clamp with (4) 3/8" by 1-3/8" pinned button head cap screws with 3/8" SAE flat washers. A 1/4" x 5/8" aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.
6. Geoplex Clamps: All clamps are ProShield finished and, unless otherwise noted, shall be fabricated from 7GA using .179" (4,54 mm) T316 stainless steel.
 - a) Ultimate Tensile: 84,000 PSI
 - b) Yield Strength: 25,000 PSI
7. Each functional clamp assembly shall have an appropriate number of locking clamps and shall be fastened to mating parts with (2) 3/8" x 7/8" pinned button head cap screws (SST) with (2) 3/8" SAE flat washers. A 1/4" aluminum drive rivet with stainless steel pin is used to ensure a secure fit to the post.

206-9.2.6 Steel-Reinforced Cables.

1. Cables made of tightly woven, polyester-wrapped, six-stranded galvanized steel cable. These abrasion-resistant, color-stable cables are extremely durable and vandal resistant. Available in Black or Red. Some products available in Black only or Red only.

206-9.2.7 Play Odyssey Structural Frame.

1. Post length of the double ladder/central column shall vary depending upon the deck height and shall be flush with the bottom of a deck infill or a minimum of 46" above the deck height. All posts shall be ProShield finished to specified color. All posts shall have a finished grade marker positioned on the post identifying the 60" bury line required for correct installation and the top of the loose fill protective surfacing. Post caps shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with (3) self-sealing rivets. A molded low-density polyethylene cap, with drain holes, shall be pressed onto the bottom end of

the ladder posts to increase the footing area. Ladders are bolted together below grade to act as a single column for installation purposes. The deck support weldments/arms are comprised of 5/16" (.313") steel conforming to 1010 steel per ASTM A635 and welded to a 52" steel post. Arms are secured to each ladder post with (4) 5/8" x 1 1/2" pinned button head cap screws through (2) 1/4" flanges.

206-9.2.8 Play Odyssey Optional Aluminum Roof Posts.

1. All formed aluminum PlayOdyssey roof posts are manufactured from 6005-T5 extruded tubing conforming to ASTM B-221. Posts shall have a 5" outside diameter with a .125" wall thickness. Post sleeve shall have 4.675" outside diameter with a .150" wall thickness. Post cap shall be aluminum die cast from 369.1 alloy and ProShield finished to match the post color. All caps shall be factory installed and secured in place with (3) self-sealing rivets.

206-9.2.9 Vibe Handholds.

1. Rotomolded shell, with 7 GA (.179") HRPO steel sheet insert that is zinc plated then ProShield finished. Standard colors are available.

206-9.2.10 Vibe Roof.

1. Rotomolded shell, with 12 GA (.105") HRPO steel sheet insert that is zinc plated then ProShield finished. Standard colors are available.

206-9.2.11 Vibe Roof.

1. Rotomolded shell, with 7 GA (.179") HRPO steel sheet insert that is zinc plated then ProShield finished. Standard colors are available. Option of 10 activity panels available in standard Permalene colors. Also available bubble or window panel made of 1/4" clear polycarbonate.

206-9.3 Evos.

206-9.3.1 5" (127 mm) Arches.

1. All steel arches are ProShield finished and manufactured from 5" (127 mm) O.D. galvanized tubing with a wall thickness of .120" (3,04 mm).
2. Steel Arch Mechanical Properties:
 - a) Yield Strength (min): 50,000 PSI (344737,95 kilopascals)
 - b) Tensile Strength (min): 55,000 PSI (379211,75 kilopascals)
 - c) % Elongation in 2 inches (51 mm): 25
 - d) Modulus of Elasticity: 29.5 x 1,000,000 PSI (6894759,09 kilopascals)

206-9.3.2 5" (127 mm) Clamps.

1. All clamps are ProShield finished and, unless otherwise noted, shall be sand cast using a 356-T6 aluminum alloy and having the following mechanical properties:
 - a) Ultimate Tensile: 35,000 PSI (241316,57 kilopascals)
 - b) Yield Strength: 18,000 PSI (124105,66 kilopascals)
 - c) Elongation: 8% in 2 inches (51 mm)

206-9.3.3 Fasteners.

1. Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.3.4 Cable.

1. Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core, black in color.

206-9.3.5 ProShield.

1. All metal components to be powdercoated shall be free of excess weld spatter. Parts shall be thoroughly cleaned in a 5-Stage Pretreatment process. Parts are then thoroughly dried and proceed through a set of automatic sprayers that apply electrostatic powdercoat. Parts are oven cured at 400 degrees F. The average powdercoat thickness is .004" (0,10 mm). Super Durable TGIC polyester powder shall be specially formulated for optimum Ultra Violet (UV) stability and gloss retention. It shall meet or exceed ASTM Standards for:
 - a) Hardness (D-3363)
 - b) Impact (D-2794)
 - c) Salt Spray resistance (B-117 and D-654)
 - d) UV Exposure (G-54)
 - e) Adhesion (D-3359, Method B)
 - f) The Paint Line shall employ a "checkered" adhesion test daily.

206-9.3.6 Rotationally Molded Poly Parts.

1. These parts shall be molded using prime compounded linear low-density polyethylene with a tensile strength of 2500 psi (17236,9 kilopascals) per ASTM D638 and with color and UV-stabilizing additives. Wall thickness varies by product from .187" (3/16")(4,75 mm) to .312" (5/16")(7,92 mm).

206-9.3.7 156439A Clamp No Faces (O-O).

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

2. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.

206-9.3.8 156440A Clamp One Faces (A-A).

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.

206-9.3.9 156441A Clamp Two Faces 90* (A-B).

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.

206-9.3.10 157586A Clamp Two Faces 180* (E-E).

1. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.
2. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.3.11 156450A Swiggle Stix DB Only.

1. E-Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
2. Pod Bolt Plate: Weldment consists of 3/16" (4,75 mm) HRPO steel plate and 3/8" (9,53 mm) thick HRPO steel plate. Finish: ProShield, color specified.
3. Pod Climb Across: Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-105") (2,41 mm-2,66 mm) wall galvanized steel tubing, 3/8" (9,53 mm) thick stainless steel plate, and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.
4. Footer (DB): Weldment comprised of 1.660" (42,16 mm) O.D. RS20 (.085"-.095") (2,16 mm-2,41 mm) galvanized steel tubing and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.
5. Support: Fabricated from 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing. Finish: ProShield, color specified.

6. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
7. Chain: Steel 1/4" (6,35 mm) straight link chain, 3,150 lb. (1428,82 kilograms). working load limit. Finish: ProGuard.
8. Cable Assy.: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6063-T6 aluminum.
9. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.

206-9.3.12 193171C SwiggleKnots Bridge w/o Deck Connections DB Only.

1. Beam: Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,67 mm) wall galvanized steel tubing, 3/8" (9,53 mm) thick stainless steel plate, and 1/4" (6,35 mm) HRPO flat steel. Finish: ProShield, color specified.
2. Cable Assy.: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6063-T6 aluminum.
3. Grab Bar: Weldment comprised of formed 7/8" (22,23 mm) O.D. x 11 GA (.120") (3,04 mm) and 1/4" x 1 3/4" (6,35 mm x (44,45 mm) stainless steel half clamps. Finish: TenderTuff, color specified.
4. E-Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
5. Pod Bolt Plate: Weldment consists of 3/16" (4,75 mm) HRPO steel plate and 3/8" (9,53 mm) thick HRPO steel plate. Finish: ProShield, color specified.
6. Footer (DB): Weldment comprised of 1.660" (42,16 mm) O.D. RS20 (.085"-.095") (2,16 mm-2,41 mm) galvanized steel tubing and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.
7. Chain: Steel 1/4" (6,35 mm) straight link chain, 3,150 lb (1428,82 kilograms). working load limit. Finish: ProGuard.
8. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
9. Ball Knot: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
10. Clamps: Cast aluminum. Finish: ProShield, color specified.

206-9.3.13 120711A Pod Climber 16" DB.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Disc: Rotationally molded from U.V. stabilized linear low density polyethylene, disc measures 14" (356 mm) in diameter x 7" (178 mm) high, color specified.
3. Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS-20 (.090" - .100") (2,28 mm-2,54 mm) 1.315" (33,40 mm) O.D. RS-20 (.080" - .090") (2,03 mm-2,28 mm) and 3/16" x 5" (4,75 mm x 127 mm) diameter plate. Finish: ProShield, color specified.

206-9.3.14 156449A Helix Net DB Only Between Two Arches.

1. Footer: Fabricated from 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tubing. Finish: ProShield, color specified.
2. Helix Net Assy.: (Net) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Swage)3/4" (19,05 mm) schedule 40 6063-T6 aluminum pipe. (S-Hooks) Fabricated from 5/16" (7,92 mm) diameter 316 stainless steel. (Cable Connectors) Fabricated from 6063-T6 aluminum.
3. 5" (127 mm) Round Clamp: All clamps, unless otherwise noted, shall be sand cast using a 535 aluminum alloy and having the following mechanical properties: Ultimate Tensile: 35,000 PSI. Yield Strength: 18,000 PSI. Elongation: 8% in 2 inches.
4. Net Railing: Weldment comprised of 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tubing, 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tubing, 3/8" (9,53 mm) thick stainless steel plate and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.
5. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
6. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.

206-9.3.15 156462A Ring Tangle DB Only.

1. Ring Tangle Bottom: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,28 mm) galvanized steel tubing and 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing. Finish: ProShield, color specified.

2. Ring Tangle Top: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) galvanized steel tubing and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
4. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.

206-9.3.16 158997A Pod Climber 10" DB.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Disc: Rotationally molded from U.V. stabilized linear low density polyethylene, disc measures 14" (356 mm) in diameter x 7" (178 mm) high, color specified.
3. Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS-20 (.090" - .100") (2,28 mm-2,54 mm) 1.315" (33,40 mm) O.D. RS-20 (.080" - .090") (2,03 mm-2,28 mm) and 3/16" x 5" (4,75 mm x 127 mm) diameter plate. Finish: ProShield, color specified.

206-9.3.17 158998A Pod Climber 20" DB.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Disc: Rotationally molded from U.V. stabilized linear low density polyethylene, disc measures 14" (356 mm) in diameter x 7" (178 mm) high, color specified.
3. Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS-20 (.090" - .100") (2,28 mm-2,54 mm) 1.315" (33,40 mm) O.D. RS-20 (.080" - .090") (2,03 mm-2,28 mm) and 3/16" x 5" (4,75 mm x 127 mm) diameter plate. Finish: ProShield, color specified.

206-9.3.18 235755A Spider Web Climber DB Only.

1. Spider Web Ring: Weldment comprised of formed 2.375" (60,33 mm) O.D. RS40 (.130" - .140") (3,30 mm-3,56 mm) wall galvanized steel tubing, 3/8" (9,53 mm) thick SST plate.
2. Cable Assembly: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core, red or black in color. (Cable Connectors) 6063-T6 aluminum.

206-9.3.19 235756A Fish Net DB.

1. Beam: Weldment comprised of formed 2.375" O.D. RS-40 (.130"-.140" wall) galvanized steel tube and 1/4" x 3" wide steel clamps, and .375" stainless steel sheet. Finished: Proshield® , color specified.
2. Attachment Clamp: Weldment comprised of 1/4" HRPO flat steel and 1/4" x 1-3/4" wide steel zinc plated clamp. Finished Proshield, color specified
3. Half Clamp: Cast aluminum. Finish: ProShield, color specified.
4. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
5. Net: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. Connector fabricated from 1.250" (31,75 mm) O.D. 6063-T6 aluminum.
6. Chain: Steel 1/4" (6,35 mm) straight link chain, 3,150 lb (1428,82 kilograms). working load limit. Finish: ProGuard.

206-9.3.20 152179A Saddle Spinner DB 16" Height.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Spinner Seat: Rotationally molded from U.V. stabilized linear low density polyethylene measuring 18 1/4" (463,55 mm) wide x 7" (178 mm) high, color specified.
3. Rubber Gasket: Made from 50 durometer neoprene.
4. Shaft Assembly: (Spinner Seat Post) Weldment comprised of 2.875" (73,03 mm) O.D. RS40 (.160"-.170") (4,06 mm-4,32 mm) Wall galvanized steel tubing, 1.250" (31,75 mm) O.D. steel shaft, 12 Ga. (.105") (2,66 mm) HR flat steel and 1144 steel collar. Finish: ProShield, color specified. (Sleeve/Plate) Weldment comprised of 1/4" (6,35 mm) sheet HRPO steel and 2.875" (73,03 mm) O.D. schedule 80 steel tubing. Finish: ProShield, color specified.

206-9.3.21 156452A Wobble Pod DB Only.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

2. Spring Leg: Weldment comprised of 3 1/2" (88,9 mm) O.D. RS20 (.120"-.130") (3,04 mm-3,30 mm) galvanized steel tubing and 1/4" x 10" (6,35 mm x 254 mm) diameter HRPO zinc plated steel mounting plate. ProShield, color specified.
3. Spring Assembly: Comprised of 5 5/8" (142,88 mm) diameter 13/16" (20,62 mm) tempered alloy steel coil, 1/4" (6,35 mm) thick HRPO zinc plated steel, 1/4" (6,35 mm) thick HRPO sheet steel and spring wedge casting made from A-356T-6 aluminum. Finish: ProShield, color specified.

209-9.3.22 156453A Chatter Noodle DB Only.

1. Hose Clamp: Band and housing made from 300 series stainless steel. Slotted screw with hex head and safety collar is cadmium-plated carbon steel.
2. Talk Tube Hose: Made from 1.75" (44,45 mm) O.D. HDPE conduit.
3. Noodle Post: Fabricated from 5.000" (127 mm) O.D. x 1/8" (3,17 mm) wall aluminum tube. Finish: ProShield, color specified.
4. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
5. Chatter Noodle Ball: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
6. Chatter Noodle Plate: Weldment comprised of 1.250" (31,75 mm) O.D. x 11 GA. (120") (3,04 mm) black steel tube and 12 Ga. (.105") (2,66 mm) HRPO flat steel. Finish: ProShield, color specified.

206-9.3.23 156454A E-Pod.

1. E-Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
2. Pod Casting: Fabricated from sand cast alloy 356 in accordance with ASTM B26. Finish: ProShield, color specified.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.3.24 156959B Noodle Pod 16"Height DB Only.

1. Noodle Post: Fabricated from 5.000" (127 mm) O.D. x 1/8" (3,17 mm) wall aluminum tube. Finish: ProShield, color specified.
2. E-Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

3. Pod Casting: Fabricated from sand cast alloy 356 in accordance with ASTM B26. Finish: ProShield, color specified.
4. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.3.25 158105A Wobble Pod DB Only.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Spring Leg: Weldment comprised of 3 1/2" (88,9 mm) O.D. RS20 (.120"-.130") (3,04 mm-3,30 mm) galvanized steel tubing and 1/4" x 10" (6,35 mm x 254 mm) diameter HRPO zinc plated steel mounting plate. ProShield, color specified.
3. Spring Assembly: Comprised of 5 5/8" (142,88 mm) diameter 13/16" (20,62 mm) tempered alloy steel coil, 1/4" (6,35 mm) thick HRPO zinc plated steel, 1/4" (6,35 mm) thick HRPO sheet steel and spring wedge casting made from A-356T-6 aluminum. Finish: ProShield, color specified.

206-9.3.26 166809A E-Pod Seat.

1. E-Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
2. Pod Casting: Fabricated from sand cast alloy 356 in accordance with ASTM B26. Finish: ProShield, color specified.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.3.27 186490A We-saw DB Only.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Anchor Cage: Weldment comprised of 1.029" (26,13 mm) O.D. RS20 (.070"-.080") (1,77 mm - 2,03 mm) wall galvanized steel tubing with 203 or 303 stainless steel welded inserts with 5/8" internal threads and 7 GA. (.179") (4,54 mm) HRPO steel sheet. Finish: Proshield, black in color.
3. We-saw Assembly: (Arm Assembly) Weldment comprised of 3.500" (88,9 mm) O.D. x 8 GA. (.162") (4,11 mm) wall galvanized steel tubing, 2.375" (60,33) O.D. RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tubing, 1.900" (48,26 mm) O.D. RS40 (.120"-.130") (3,05 mm-3,30 mm) wall galvanized steel

tubing, .375" (9,52 mm) thick HRPO steel plate and .250" (6,35 mm) HRPO steel plate. Finish: Proshield, black in color. (Rocker Assembly) Weldment comprised .250" (6,35 mm) HRPO steel plate and 2" (50 mm) x 5/16" (7,93 mm) wall steel tubing. Finish: ProShield, black in color. (Base) Weldment comprised .375" (9,53 mm) HRPO steel plate and 2.500" (63,50 mm) O.D. x 1.150" (29,21 mm) I.D. stainless steel tubing. Finish: ProShield, black in color. (Base Plate) Fabricated from .250" (6,35 mm) HRPO steel plate. Finish: ProShield, black in color. (Spring) 5 5/8" (142,87 mm) diameter 13/16" (20,62 mm) tempered alloy steel coil. Finish: ProShield, black in color. (Spring Wedge) Cast from ductile iron alloy. Finish: ProShield, black in color. (Bearings) 1.145" (29,08 mm) I.D. oilite bronze. (Shaft) 1.14" (28,96 mm) O.D. stainless steel.

4. Bumper Footer: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm - 2,29 mm) wall galvanized steel tubing with 203 or 303 stainless steel welded inserts with 5/8" internal threads and .250" (6,35 mm) thick HRPO steel plate. Finish: Proshield, color specified.
5. Center Pad: Fabricated from .250" (6,35 mm) thick HRPO steel sheet plate. Finish: Proshield, black in color.
6. Filler Plate: Fabricated from 12 Ga. (105") (2,66 mm) HRPO steel sheet. Finish: ProShield, color specified.
7. GripX Insert: 3/4" (19,05 mm) Thick Permalene, black in color.
8. Teeter Pad & Edges: Permalene, color specified.
9. Platform Handhold: Weldment comprised of 1.315" (33,4 mm) O.D. RS20 (.080"-.090") (2,03 mm - 2,28 mm) wall galvanized steel tubing, 10 GA (.135") (3,42 mm) HRPO steel sheet and 7 GA. (.179") (4,54 mm) HRPO steel sheet. Finish: Proshield, color specified.
10. Rung Cap: Molded from U.V. stabilized black EPDM rubber encapsulating .250" (6,35 mm) thick aluminum sheet and .125" (3,18 mm) thick aluminum plate.
11. Seat: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

206-9.3.28 194663B ZipKrooz 50' w/Aluminum Posts DB.

1. Spacer: .190"(4,82 mm) Thick aluminum sheet.
2. Track: Extruded from 6005-T4 aluminum alloy. Finish: ProShield, color specified.
3. Trolley Assy.: Steel body with urethane rollers. Completely assembled. Steel Body Finish: ProShield, black in color.

4. Deck: Flange formed from 12 GA (.105") (2,66 mm) sheet steel conforming to ASTM A1011, 1/4" (6,35 mm) HRPO flat steel and 3/8" (9,53 mm) HRPO flat steel. Standing surface is perforated with 5/16" (7,94 mm) diameter holes. The finished size measures 2 1/8" x 38 1/2" x 38 1/2" (53,98 mm x 977 mm x 977 mm). Finish: TenderTuff, color specified.
5. Deck Support: Weldment comprised of 5" (127 mm) O.D. x 7 GA. (.179") (4,54 mm) wall galvanized steel tube, and 1/2" (12,7 mm) HRPO steel plate. Finish: ProShield, color specified.
6. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
7. Crossover: Weldment comprised of tee clamps and a 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125" (3,17 mm) wall. Finish: ProShield, color specified.
8. Post: See PlayBooster (PB) General Specifications.
9. E-Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
10. Chain w/Rubber Cover Assy.: (Chain) Steel 1/4" (6,35 mm) straight link chain, 3,150 lbs. (1428,82 kilograms) working load limit. Finish: ProGuard. (Cover) High pressure Buna-N Rubber hose, black in color. (Connector) Aluminum.
11. Clamps: Cast aluminum. Finish: ProShield, color specified.
12. Bumper: Urethane, black in color.
13. ZipKrooz Crossover: Weldment comprised of 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,55 mm) wall galvanized steel tubing, 3/8" (9,52 mm) thick HRPO steel plate and 1/4" (6,35 mm) thick HRPO steel. Finish: ProShield, color specified.

206-9.3.29 196212B ZipKrooz Assisted 50' w/Aluminum Posts DB.

1. ZipKrooz Crossover: Weldment comprised of 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,55 mm) wall galvanized steel tubing, 3/8" (9,52 mm) thick HRPO steel plate and 1/4" (6,35 mm) thick HRPO steel. Finish: ProShield®, color specified.
2. Spacer: .190"(4,82 mm) Thick aluminum sheet.
3. Track: Extruded from 6005-T4 aluminum alloy. Finish: ProShield®, color specified.

4. Trolley Assy.: Steel body with urethane rollers. Completely assembled. Steel Body Finish: ProShield® , black in color.
5. Crossover: Weldment comprised of tee clamps and a 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125" (3,17 mm) wall. Finish: ProShield, color specified.
6. Post: See PlayBooster (PB) General Specifications.
7. Bucket Seat Mount: Weldment comprised of 1.42" (36,06 mm) diameter stainless steel, 1.660" (42,16 mm) O.D. RS20 (.085"-.095") (2,16 mm-2,41 mm) wall galvanized steel tubing, 3/8" (9,53 mm) thick HRPO steel plate and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield®, color specified.
8. Clamps: Cast aluminum. Finish: ProShield, color specified.
9. Cable Assy.: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6063-T6 aluminum.
10. Bucket Seat Assy: (Bucket Seat & Yoke) Rotationally molded from U.V. stabilized linear low density polyethylene, color specified. (Pipebolt) Made from 1.125" (28,58 mm) O.D. 6005-T5 threaded anodized aluminum tube. (Bearings) UHMW PE lubricated. (Brackets) Made from 356-T6 aluminum.
11. Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (.120") (3,04 mm) HRPO steel sheet.
12. Bumper: Urethane, black in color.

206-9.3.30 247179A Curva Spinner DB Only.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Spinner Post: Weldment comprised of 1.315" O.D. RS20 (.075"-.091") galvanized steel tubing, 6" O.D. Sphere (.135" wall) and 4" O.D. STC Ball (.135"wall). 3/8" HRPO flat steel. Finish" ProSshield®, color specified.
3. Spinner Permalene: Recycled permalene, black in color.
4. Standing Post Assembly: Spinner Post - Weldment comprised of 3.5" O.D. 8GA (.149"-.187" wall) galvanized steel tubing, 2" O.D. steel shaft, 12 GA. (.105") HR flat steel, and 1144 steel collar. Finish: ProShield®, color specified.
5. Sleeve/Plate - Weldment comprised of 3/8" sheet HRPO steel and 3.5" O.D. schedule 80 steel tubing. Finish; ProShield®, color specified.

6. Rubber Plug: Made from .315" thick mini rough top 3-ply rubber belting with polyester fabric plys, black in color
7. Rubber Gasket: Made from 50 durometer neoprene.

206-9.3.31 247189A Chill Spinner DB.

1. Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (.120") (3,04 mm) HRPO steel sheet.
2. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
3. Bearing: 2" (50 mm) Deep groove stainless steel.
4. Belt Seat: Made from .315" (8,00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plys, black in color.
5. Belt: Made from .315" (8,00 mm) thick mini rough top 3-ply rubber belting with polyester fabric plys, black in color.
6. Seat Frame: Weldment comprised of 1.66" (42,1 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tubing, 1/4" (6,35 mm) thick HRPO steel sheet and 3.500" (88,9 mm) O.D. steel pipe. Finish: ProShield, color specified.
7. Seat Post: Weldment comprised of 3.500" (88,9 mm) O.D. (8 GA) (.165") wall galvanized steel tubing. Finish: ProShield, color specified.

206-9.3.32 193170A LolliLadder w/2 E-Pods.

1. Rung Cap: EPDM, black in color.
2. LolliLadder: Weldment comprised of 1/4" (6,35 mm) HRPO flat steel, 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,55 mm) wall galvanized steel tubing, and 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,29 mm) wall galvanized tubing. Finish: ProShield, color specified.. Finish: ProShield, color specified.
3. E-Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
4. Pod Casting: Fabricated from sand cast alloy 356 in accordance with ASTM B26. Finish: ProShield, color specified.
5. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
6. Clamps: Cast aluminum. Finish: ProShield, color specified.

206-9.3.33 111404E 116"Alum Post DB.

1. Post: See PlayBooster (PB) General Specifications.

206-9.3.34 111404C 132"Alum Post DB.

1. Post: See PlayBooster (PB) General Specifications.

206-9.3.35 182503C Welcome Sign (LSI Provided) Ages 5-12 years Direct Bury.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Sign Panel: Panel is fabricated from 1/8" (.125")(3,17 mm) aluminum plate. Finish: ProShield® , gray in color. (Sign) Digital image is transferred to a 1/8" (.125")(3,17 mm) ProShield coated aluminum plate, then infused into the ProShield.
3. Post: Weldment comprised 2.375" (60,33 mm) O.D. RS20 (.095"-.105) (2,41 mm-2,67 mm) wall galvanized tube, 1/4" (6,35 mm) HRPO steel sheet and aluminum post cap. Finish: ProShield, color specified.

206-9.3.36 182865A Rush Slide DB Only.

1. Ball Clamp/Ball Retainer: Cast from 356-T6 Aluminum. Finish: ProShield, color specified.
2. Hood: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
3. Handhold: Weldment comprised of 1.315" (33,4 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,28 mm) wall galvanized steel tubing and 7 GA. (4,54 mm) HRPO steel sheet. Finish: ProShield, color specified.
4. Supports: Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing and 7 GA. (4,54 mm) HRPO steel sheet. Finish: ProShield, color specified.
5. Vertical Ladder: Weldment comprised of 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tubing, and 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,29 mm) wall galvanized steel tubing and 1/4" (6,35 mm) HRPO flat steel,. Finish: ProShield, color specified.
6. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
7. Handbar: Fabricated from A356 aluminum. Finish: ProShield, color specified.

8. Crossover: Weldment comprised of 2.375" (60,33 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tubing, 3/16" (4,74 mm) HRPO steel sheet and 1 7/8" (47,63 mm) steel ball. Finish: ProShield, color specified.
9. Slide: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
10. Rung Cap: Molded from U.V. stabilized black EPDM rubber encapsulating .250" (6,35 mm) thick aluminum sheet and .125" (3,18 mm) thick aluminum plate.

206-9.3.37 100041A Curved Balance Beam DB.

1. Balance Beam: Weldment comprised of 1 1/2" (38,1 mm) x 3" (76 mm) x 11 GA (.120") (3,04 mm) rectangular steel tubing. Finish: TenderTuff, color specified.
2. Support Leg: Weldment comprised of 2 3/8" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) galvanized steel tubing and 3/8" x 4" (60,33 mm x 102 mm) mounting plate. Finish: ProShield, color specified.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.3.38 226231A Alpha Tower.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. HDG Post: Material 3" Square .125" wall ERW Steel. Finish: Hot Dip Galvanized per ASTM A123 Cat. 100
3. GripX Platform: 3/4" (19,05 mm) Thick recycled Permalene®®, black in color.
4. HDG Slide Supports: Material Tube Black Steel 1.900in OD x .109W. Finish: Hot Dip Galvanized per ASTM A123 Cat. 100
5. Corner Climber: Weldment comprised of formed 1.660" OD RS-40 (.108"-.132") galvanized steel tubing. Finish: Proshield, Specify Color
6. HDG Deck Supporting: Material 2-1/2" x 1-1/2" rectangle steel .120 wall ERW Steel. Finish: Hot Dip Galvanized per ASTM A123 Cat. 100
7. HDG Frame/Mending Plate: Material 1/4" HRPO Sheet Steel. Finish: Hot Dip Galvanized per ASTM A123 Cat. 100
8. D Ring: Cast from A356 aluminum alloy with a cast in place 841 bronze alloy bushing. Finish: TenderTuff, Specify color.

9. Perf Panels: 5052 H32 Aluminum panels with .313 hole pattern .50 x 60*. Finish: Proshield, Metallic Silver in Color
10. Permalene Panels: Recycled Permalene, color specified.
11. Cable Assy.: (Cable) Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6063-T6 aluminum.
12. Window Panel: 3/16" (4,74 mm) Thick clear polycarbonate.
13. HDG Stair Support: 11GA HRPO Sheet. Finish: Hot Dip Galvanized per ASTM A123 Cat. 100
14. Slide: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
15. Railings: Weldment comprised of 1.125" (28,58 mm) O.D. x 11 GA. (.120") (3,04 mm) steel tubing with 203 or 303 stainless steel 3/8" (9,53 mm) threaded inserts. Finish: TenderTuff, color specified.

206-9.3.39 174018A Belt Seat ProGuard Chains for 8' Beam Height.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.
3. Belt Seat: Molded from UV stabilized black EPDM rubber encapsulating a weldment comprised of a 22 GA (.029") (0,74 mm) spring stainless steel sheet and (4) .105" (2,67 mm) thick stainless steel washers. The belt seat elliptical shape measures 7" (178 mm) wide x 26" (660 mm) long x .700" (17,78 mm) thick.
4. Bolt Link: Stainless Steel

206-9.3.40 177351A Molded Bucket Seat (5-12 yrs) w/Harness ProGuard Chains for 8' Beam Height.

1. Bucket Seat Assy: (Bucket Seat & Yoke) Rotationally molded from U.V. stabilized linear low density polyethylene, color specified. (Pipebolt) Made from 1.125" (28,58 mm) O.D. 6005-T5 threaded anodized aluminum tube. (Bearings) UHMW PE lubricated. (Brackets) Made from 356-T6 aluminum.
2. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

3. Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.
4. Mounting Bracket: Cast from 535 aluminum magnesium.
5. Dbl. Pivot Block: Fabricated from 6061-T6 Aluminum with bronze oil impregnated bearing.
6. Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (.120") (3,04 mm) HRPO steel sheet.

206-9.3.41 221292A 5" Arch Swing Frame 8' Beam Height Only.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Swing Beam: Weldment comprised of tee clamps and 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125" (3,17 mm) W. Finish: ProShield, color specified.
3. Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.
4. Arch Posts: See Play Booster (PB) General Specifications.

206-9.3.42 221293A 5" Arch Swing Frame Additional Bay 8' Beam Height Only.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Swing Beam: Weldment comprised of tee clamps and 5" (127 mm) O.D. extruded 6005-T5 aluminum alloy tube with a .125" (3,17 mm) W. Finish: ProShield, color specified.
3. Hanger Clamp Assembly: Cast aluminum. Finish: ProShield, color specified.
4. Arch Posts: See PlayBooster (PB) General Specifications.

206-9.3.43 228069A Oodle Swing HDG DB Only.

1. Bumper: Molded from U.V. stabilized black EPDM rubber encapsulating 11 GA (.120") (3,04 mm) HRPO steel sheet.
2. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

3. Swing Leg: 3.500" (88,9 mm) O.D. (.120")(3,04 mm) wall black steel tube. Finish: Hot dip galvanized per ASTM A123 Cat. 100.
4. Swing Seat Brkt: Weldment comprised of 1.66" (42,16 mm) O.D. x .109" (2,76 mm) wall black steel tube, 1.000" (25,4 mm) O.D. x .750" (19,05 mm) I.D. 1018 steel tube and 7GA (.179") (4,55 mm) HRPO steel sheet. Finish: Hot dip galvanized per ASTM A123 Cat. 100.
5. Swing Seat: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
6. Cable: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6061-T6 aluminum.

206-9.4 Weevos.

206-9.4.1 3-1/2" Arches.

1. All steel arches are ProShield finished and manufactured from 3-1/2" O.D. galvanized tubing with a wall thickness of .120".
2. Steel Arch Mechanical Properties:
 - a) Yield Strength (min): 50,000 PSI
 - b) Tensile Strength (min): 55,000 PSI
 - c) Elongation: 25% in 2 inches
 - d) Modulus of Elasticity: 29.5 x 106 PSI

206-9.4.2 3-1/2" Clamps.

1. All clamps are ProShield finished and, unless otherwise noted, shall be sand cast using a 356-T6 aluminum alloy and having the following mechanical properties:
 - a) Ultimate Tensile: 35,000 PSI
 - b) Yield Strength: 18,000 PSI
 - c) Elongation: 8% in 2 inches

206-9.4.2 Steel Reinforced Cables.

1. Made of tightly woven, polyester wrapped, six-stranded galvanized steel cable. These abrasion-resistant, color-stable cables are extremely durable and vandal resistant. Black only.

206-9.4.3 164178A Boppity Bridge DB.

1. Boppity Bridge: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

2. Ball Clamp: Fabricated from sand cast A356-T6 aluminum alloy. Finish: ProShield, color specified.
3. Cable Assembly: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6063-T6 aluminum.
4. Footer (DB): Weldment comprised of 1.660" (42,16 mm) O.D. RS20 (.085"-.095") (2,16 mm-2,41 mm) galvanized steel tubing and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.
5. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
6. Single & Double Brackets: Weldment comprised of 3/8" (.375") (9,53 mm) HRPO steel plate and .250" (6,35 mm) HR flat steel. Finish: ProShield, color specified.
7. Bridge Support (DB): Weldment comprised of 1.900" (48,26 mm) O.D. RS40 (.120"-.130") (3,04 mm-3,30 mm) wall galvanized steel tubing, 3/8" (9,53 mm) HRPO steel plate and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.

206-9.4.4 173575A Swiggly Stix Bridge DB.

1. Support Tube: Weldment comprised of 1.900" (48,26 mm) O.D. RS-20 (.090" - 100") (2,28 mm-2,54 mm) galvanized steel tubing, 1/8" x 1 1/2" (3,17 mm-38.1 mm) HR flat steel and 1/4" (6,35 mm) HRPO flat steel. Finish: ProShield, color specified.
2. Cable: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6061-T6 aluminum. (Pod Mounting Plate) Weldment consists of 3/16" (4,75 mm) 6061-T6 aluminum plate and 1.315" (33,40 mm) O.D. schedule 160 6061-T6 aluminum pipe.
3. Upper Support: Fabricated from 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tubing, 3/8" (9,53 mm) thick HRPO steel plate and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.
4. Footer (DB): Weldment comprised of 1.660" (42,16 mm) O.D. RS20 (.085"-.095") (2,16 mm-2,41 mm) galvanized steel tubing and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.
5. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
6. Pod: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

206-9.4.5 150635A Mobius Climber 3-Panel DB Only.

1. Snap Rivet: Fabricated from clear polycarbonate.
2. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
3. Cone Assembly: Weldment comprised of 2.375" (60,33 mm) diameter (.154") (3,91 mm) wall 6005-T1 aluminum tube and .190" (4,83 mm) thick aluminum sheet. Finish: Clear anodize.
4. Support Tube End Connector: Fabricated from 6061-T6 aluminum. Finish: ProShield, color specified.
5. H-Frame Support Footer: Weldment comprised of 2.375" (60,33 mm) RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tube and 1018 steel sleeve. Finish: ProShield, color specified.
6. Ladder Connecting Tube: Fabricated from 2.375" (60,33 mm)RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tube. Finish: ProShield, color specified.
7. Sleeves: Fabricated from 6061-T6 aluminum. Finish: Clear anodize.
8. Support Channel: Fabricated from 6061-T6 aluminum, Finish: Clear anodize.
9. Support Posts: Fabricated from 2.375" (60,33 mm) RS40 (.130"-.140") (3,30 mm-3,56 mm) wall galvanized steel tube. Finish: ProShield, color specified.
10. Tri Handhold: Polyester Resin (Silicia, Dualite)
11. O-Ring: Fabricated from 70 durometer nitrile, black in color.

206-9.4.6 173573A Wee Planet Climber DB.

1. Table Support: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080" - 090") (2,03 mm-2,28 mm) wall galvanized steel tubing and 1/4" (6,35 mm) HRPO flat steel. Finish: ProShield, color specified.
2. Panel: Permalene, color specified.
3. Panel Footer: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080" - 090") (2,03 mm-2,28 mm) wall galvanized steel tubing and 1/4" (6,35 mm) HRPO flat steel. Finish: ProShield, color specified.
4. Bracket: Fabricated from 7 GA. (.188") (4,77 mm) flat zinc plate steel. Finish: ProShield, color specified.

5. Clevis: Weldment comprised of .375" (9,53 mm) HRPO thick flat steel and .25" (6,35 mm) thick HRPO flat steel. Finish: ProShield, color specified.
6. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
7. Rail: Fabricated from 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tubing and 3/16" (4,75 mm) HRPO steel sheet. Finish: ProShield, color specified.
8. Cable: Made of tightly woven polyester-wrapped, six-stranded galvanized-steel cable with a polypropylene core. (Cable Connectors) 6061-T6 aluminum.
9. Wee Pod Ball: 1 7/8" (47,62 mm) Steel ball. Finish: ProShield, color specified.

206-9.4.7 173582A Imagination Table DB.

1. Ball Clamp: Fabricated from sand cast A356-T6 aluminum alloy. Finish: ProShield, color specified.
2. Permalene Panel: Two color, color specified.
3. Panel Frame: Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) galvanized steel tubing, 1/8" (3,17 mm) HRPO steel sheet and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.
4. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.4.8 173583A Bongo/Xylofun Panels DB.

1. Ball Clamp: Fabricated from sand cast A356-T6 aluminum alloy. Finish: ProShield, color specified.
2. Screen Plate: Fabricated from 12 GA. (.105") (2,66 mm) HRPO flat steel. Finish: Black in color.
3. Permalene Panel: Two color, color specified.
4. Bongo: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
5. Panel Frame: Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) galvanized steel tubing, 1/8" (3,17 mm) HRPO steel sheet and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.

6. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
7. Xylofun Panel Assy.: (Panels) Two color Permalene, color specified. 1/8" (3,17 mm) Thick steel, .125" (3,17 mm) O.D. aluminum tube and 1/2" (12,7 mm) threaded steel rod. Finish: ProShield, color specified.

206-9.4.9 173591A OmniSpin Spinner Surface Mount.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. OmniSpin Spinner: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
3. OmniSpin Spinner Frame Assembly: (Frame) Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing, 2.875" (73,03 mm) O.D. RS40 (.160"-.170") (4,06 mm-4,32 mm) wall galvanized steel tubing, 1/4" (6,35 mm) HR flat steel and 3 1/2" (88,9 mm) O.D. CF steel bar. (Base) Weldment comprised of 3/8" (9,53 mm) HRPO sheet steel and 3/16" (4,75 mm) HRPO sheet steel. (Shock Covers) 16 GA (.060") (1,52 mm) HRPO sheet steel. (Crank Arms & Pins) Fabricated from stainless steel. (Shocks) Gas shocks with fixed bearings. Finish: ProShield, black in color.

206-9.4.10 177720A Rain Sound Wheel Panel DB.

1. Ball Clamp: Fabricated from sand cast A356-T6 aluminum alloy. Finish: ProShield, color specified.
2. Panel Frame: Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) galvanized steel tubing, 1/8" (3,17 mm) HRPO steel sheet and 1 7/8" (47,62 mm) steel ball. Finish: ProShield, color specified.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
4. Rain Sound Wheel Panel Assy.: Assembly comprised of (Permalene Panels), color specified. (Shaft) 1" (25 mm) diameter x 4 3/4" (120,65 mm) long stainless steel. (Inner & Outer Rings) 16 GA. (.059") (1,50 mm) HRPO sheet steel. Finish: ProShield, color specified. (Brackets) 16 GA. (.059") (1,50 mm) HRPO sheet steel. Finish: Zinc plate with clear chromate finish. (Spacer) 3/4" (19,05 mm) diameter x 2 1/8" (53,98 mm) long stainless steel. (Flange Oilite Bearing) 1.625" (41,28 mm) diameter x 1.000" (25 mm) long.

206-9.4.11 233055B DigiRider Rocket Ship DB.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Brackets: Fabricated from formed 7 GA (.179") (4,55 mm) HRS. Finish: ProShield, black in color.
3. Footrest: Cast from 356-T6 aluminum alloy. Finish: ProShield, black in color.
4. Cast from 356 aluminum alloy. Finish: ProShield, Black in color.
5. Spring Wedge: Cast made from A-356T-6 aluminum. Finished ProShield, Black in color.
6. Base Plate: Fabricated from 1/4" x 10" (6,35 mm x 254 mm)HRPO flat plate. Finish: ProShield, Black in color.
7. DigiFuse Panel: Made from 1/8" (3,17 mm) thick aluminum sheet. Dye sublimation printed digital artwork is fused onto the powdercoated substrate.
8. Permalene Panels: Recycled Permalene, color specified.
9. Spring: Weldment comprised of 5 5/8" (142,87 mm) diameter 13/16" (20,63 mm) tempered alloy steel coil. Finish: ProShield, black in color.
10. Spring Leg: Weldment comprised of 3 1/2" (88,9 mm) O.D. RS20 (.120"-.130") (3,04 mm-3,30 mm) galvanized steel tubing and 1/4" x 10" (6,35 mm x 254 mm) diameter HRPO zinc plated steel mounting plate. ProShield, color specified.

206-9.4.12 182503A Welcome Sign (LSI Provided) Ages 2-5 years Direct Bury.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Border: Permalene, black in color.
3. Sign Panel: Panel is fabricated from 1/8" (.125")(3,17 mm) aluminum plate. Finish: ProShield®, gray in color. (Sign) Digital image is transferred to a 1/8" (.125")(3,17 mm) ProShield coated aluminum plate, then infused into the ProShield.
4. Post: Weldment comprised 2.375" (60,33 mm) O.D. RS20 (.095-.105) (2,41 mm-2,67 mm) wall galvanized tube, 1/4" (6,35 mm) HRPO steel sheet and aluminum post cap. Finish: ProShield, color specified.

206-9.4.13 164174A Cozy Coaster Slide w/ASTM Handrail DB w/Stairs Under Large Arch.

1. Spiral Stair Rail: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,28 mm) wall galvanized steel tubing with 203 or 303 stainless steel welded inserts with 5/8" (15,88 mm) internal threads and 3/16" (20,62 mm) HRPO steel plate. Finish: ProShield, color specified.
2. Ball Clamp: Fabricated from sand cast A356-T6 aluminum alloy. Finish: ProShield, color specified.
3. Mid-Support & Footer (DB): Weldment comprised of 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing, and 1/4" (6,35 mm) HRPO steel plate. Finish: ProShield, color specified.
4. Handbar: Fabricated from A356 aluminum. Finish: ProShield, color specified.
5. Handloop: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,28 mm) wall galvanized steel tubing, and 3/16" (4,75 mm) HRPO steel plate. Finish: ProShield, color specified.
6. Rail Footers (DB): Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,28 mm) wall galvanized steel tubing with 203 or 303 stainless steel welded inserts with 5/8" (15,88 mm) internal threads and 5/8" x 1 1/2" (15,88 mm x 38,1 mm) BHCS w/pin. Finish: ProShield, color specified.
7. Slide Stairs: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.
8. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
9. Slide Crossover: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing, 2.375" (60,33 mm) O.D. RS20 (.095"-.105") (2,41 mm-2,66 mm) wall galvanized steel tubing, 1 7/8" (47,62 mm) steel ball and 3/16" (4,75 mm) HRPO steel plate. Finish: ProShield, color specified.
10. Slide: Rotationally molded from U.V. stabilized linear low density polyethylene, color specified.

206-9.4.14 176038G Full Bucket Seat ProGuard Chains for Toddler Swing.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Chain/ProGuard: Steel 3/16" (4,75 mm) straight link chain, 800 lb. (362,87 kilograms) working load limit. Finish: ProGuard.

3. Full Bucket Seat: Made of U.V. stabilized high-quality black rubber encapsulating a 24 GA (.024") (0,61 mm) stainless steel reinforcement plate. Handles cast from 356-T6 aluminum alloy with black polyarmor paint finish. Handles attach to seat with (3) 1/4" (6,35 mm) x 1 5/16" (33,32 mm) long stainless steel rivets. The full bucket measures 9" (229 mm) deep x 10 1/2" (266,7 mm) wide.

206-9.4.15 177336A Toddler Swing Frame DB Only.

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Swing Beam: Weldment comprised of 3.500" (88,9 mm) O.D. RS-20 (.120" - 130") (3,04 mm-3,30 mm) galvanized steel tubing, 6" (152 mm) wide zinc plated steel clamp, 3.500" (88,9 mm) pipe cap, and 1 1/4" (31,75 mm) housings with bronze bushings. Finish: ProShield, color specified.
3. Post: See PlayBooster (PB) General Specifications.

206-9.5 Freestanding Play (Circuit Fitness Equipment).

206-9.5.1 192451A Ab Crunch/Leg Lift DB Order Post Separately.*

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Bench/Seat: Rotationally molded from U.V. stabilized linear low density polyethylene, black in color.
3. Bench Frame: Weldment comprised of 1.900" (48,26 mm) O.D. RS40 (.120"-130")(3,04 mm-3,30 mm) wall galvanized steel tube, 1/4" (6,35 mm) HRPO sheet steel and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.
4. Bench Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS40 (.120"-130")(3,04 mm-3,30 mm) wall galvanized steel tube, and 1/4" (6,35 mm) HRPO sheet steel. Finish: ProShield, color specified.
5. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
6. Sit-Up/Footrest: Weldment comprised of 1.660" (42,16 mm) O.D. RS-40 (.108"-132") (2,74 mm-3,35 mm) wall galvanized steel tube, 1.029" O.D. RS20 (.070"-080") (1,78 mm-2,03 mm) wall, and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.

206-9.5.2 192452A Assisted Row/Push-Up DB Order Post Separately.*

1. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
2. Rail: Weldment comprised of 1.660" (42,16 mm) O.D. RS20 (.085"-.095") (2,16 mm-2,41 mm) wall galvanized steel tube, 3/16" (4,75 mm) HRPO sheet steel and 1/4" (6,35 mm) HRPO sheet steel. Finish: ProShield, color specified.
3. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.

206-9.5.3 192455A Cardio Stepper DB Order Post Separately.*

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Resistance Knob: Aluminum. Finish: ProShield, black in color.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
4. Foot Pad: Rotationally molded from U.V. stabilized linear low density polyethylene, black in color.
5. Stepper Frame: Weldment comprised of 1.900" (48,26 mm) O.D. RS40 (.120"-.130") (3,05 mm-3,30 mm) wall galvanized steel tube, 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,28 mm-2,54 mm) wall galvanized steel tube, 1/4" (6,35 mm) thick HRPO sheet steel, 1" (25,4 mm) O.D. steel and 3/16" (4,75 mm) thick HRPO sheet steel. Finish: ProShield, color specified.
6. Stepper Footer (DB): Weldment comprised of 5.000" (127 mm) O.D. x .120" (3,05 mm) wall galvanized steel tube, and 1/4" (6,35 mm) thick HRPO sheet steel. Finish: ProShield, color specified
7. Leg Attachment: Weldment comprised of 1" (25 mm) O.D. steel shaft and 3/4" (19,05 mm) thick stainless steel plate. Finish: ProShield, color specified.
8. Stepper Arm: Weldment comprised of 1.660" (42,16 mm) O.D. RS20 (.085" - .095") (2,15 mm-2,41 mm) wall galvanized steel tube, 1.900" (48,26 mm) O.D. x 1.253" (31,83 mm) I.D. steel tube, and 1/4" (6,35 mm) thick HRPO sheet steel. Finish: ProShield, color specified.
9. Stepper Leg: Weldment comprised of 1.660" (42,16 mm) O.D. RS40 (.111" - .121") (2,81 mm-3,07 mm) wall galvanized steel tube, 3/8" (9,52 mm) HRPO

steel plate, 1.900" (48,26 mm) O.D. x 1.253" (31,83 mm) I.D. steel tube, 1" (25 mm) O.D. steel shaft and 1/4" (6,35 mm) thick HRPO sheet steel. Finish: ProShield, color specified.

10. Resistance Assy.: Resistance mechanism features wear-resistant composites that provide bi-directional resistance. Mechanism is mounted in a housing comprised of 3/4" (19,05 mm) thick steel plate and 11 GA. (.120") (3,05 mm) thick steel cover. Finish: ProShield, color specified.
11. Shaft Clamp: Stainless steel. Finish: ProShield, color specified.

206-9.5.4 192456A Chest/Back Press DB Order Post Separately.*

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Resistance Knob: Aluminum. Finish: ProShield, black in color.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
4. Back Support/Seat: Rotationally molded from U.V. stabilized linear low density polyethylene, black in color.
5. Frame: Weldment comprised of 1.660" (42,16 mm) O.D. RS40 (.111"-.121")(2,81 mm-3,07 mm) wall galvanized steel tube, 7 GA. (.179") (4,54 mm) thick HRPO steel sheet and 1/4" (6,35 mm) thick HRPO sheet steel. Finish: ProShield, color specified.
6. Hand Bar: Weldment comprised of 1.660" (42,16 mm) O.D. RS40 (.111"-.121") (2,81 mm-3,07 mm) wall galvanized steel tube, and .875" (22,22 mm) thick stainless steel. Finish: ProShield, color specified.
7. Resistance Assy.: Resistance mechanism features wear-resistant composites that provide bi-directional resistance. Mechanism is mounted in a housing comprised of 3/4" (19,05 mm) thick steel plate and 11 GA. (.120") (3,05 mm) thick steel cover. Finish: ProShield, color specified.
8. Chest Back/Seat Spacer: Recycled Permalene, color specified.
9. Shaft Clamp: Stainless steel. Finish: ProShield, color specified.

206-9.5.5 192457A Elliptical DB Order Post Separately.*

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.

2. Support Stand: Weldment comprised of .250" (6,35 mm) thick HRPO flat steel. Finish: ProShield, color specified.
3. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
4. Foot Pad: Rotationally molded from U.V. stabilized linear low density polyethylene, black in color.
5. Resistance Assy.: Resistance mechanism features wear-resistant composites that provide bi-directional resistance. Mechanism is mounted in a housing comprised of 3/4" (19,05 mm) thick steel plate and 11 GA. (.120") (3,05 mm) thick steel cover. Finish: ProShield, color specified.
6. Handle: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tube, 1/4" (6,35 mm) HRPO steel sheet and steel crank shaft. Finish: ProShield, color specified.
7. Leg: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,29 mm-2,54 mm) wall galvanized steel tube, 1/4" (6,35 mm) thick HRPO steel sheet and 1.900" (48,26 mm) O.D. steel shaft. Finish: ProShield, color specified.
8. Front Base Footer: Weldment comprised of 1.315" (33,40 mm) O.D. RS20 (.080"-.090") (2,03 mm-2,29 mm) wall galvanized steel tube, and 1/4" (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
9. Handle Axle Assy.: Weldment comprised of 1.900" (48,26 mm) O.D. RS20 (.090"-.100") (2,29 mm-2,54 mm) wall galvanized steel tube, 7 GA. (.179") (4,55 mm) HRPO sheet steel, 3/16" (4,75 mm) HRPO sheet steel and steel handle shaft. Finish: ProShield, color specified.
10. Rear Base Footer: Weldment comprised of 5.000" (130 mm) O.D. x 11 GA. (.120") (3,05 mm) wall galvanized steel tube, and 1/4" (6,35 mm) thick HRPO steel sheet. Finish: ProShield, color specified.
11. Rung Cap: EPDM, black in color.

206-9.5.6 192460A Pull-Up/Dip DB Order Post Separately.*

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

3. Pull-Up Bar: Weldment comprised of 1.660" (42,16 mm) O.D. RS40 (.111"-.121") (2,81 mm-3,07 mm) wall galvanized steel tube, 1/4" (6,35 mm) HRPO sheet steel and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.

206-9.5.7 192461A Squat press DB Order Post Separately.*

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Frame: Weldment comprised of 1.900" (48,26 mm) O.D. 12 GA. (.105")(2,66 mm) wall black steel tube, 1.315" (33,40 mm) O.D. (.098"-.120")(2,48 mm-3,05 mm) wall black steel tube, 1.660" (42,16 mm) O.D. RS40 (.111"-.121")(2,81 mm-3,07 mm) wall black steel tube, 7 GA. (.179") (4,54 mm) thick HRPO steel sheet, 1/4" (6,35 mm) HRPO sheet steel, and 3/8" (9,53 mm) HRPO steel plate. Finish: ProShield, color specified.
3. Arm: Weldment comprised of 1.660" (42,16 mm) O.D. RS40 (.111"-.121") (2,81 mm-3,07 mm) wall galvanized steel tube, 2.375" (60,32 mm) O.D. RS40 (.130"-.140") (3,30 mm-3,55 mm) wall galvanized steel tube, 1.900" (48,26 mm) O.D. RS40 (.090"-.100") (2,28 mm-2,54 mm) wall galvanized steel tube and .875" (22,22 mm) thick HRPO sheet plate. Finish: ProShield, color specified.
4. Resistance Knob: Aluminum. Finish: ProShield, black in color.
5. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
6. Shoulder Pad: Rotationally molded from U.V. stabilized EVA (ethyl vinyl acetate) and high density polyethylene, black in color.
7. Resistance Assy.: Resistance mechanism features wear-resistant composites that provide bi-directional resistance. Mechanism is mounted in a housing comprised of 3/4" (19,05 mm) thick steel plate and 11 GA. (.120") (3,05 mm) thick steel cover. Finish: ProShield, color specified.
8. Shaft Clamp: Stainless steel. Finish: ProShield, color specified.

206-9.5.8 205938A Hand Cyclor Order Post Separately.*

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Resistance Knob: Aluminum. Finish: ProShield, black in color.
3. Crank Shaft Assy.: Weldment comprised of 5/8" (15,88 mm) diameter stainless steel shaft and steel crank. Finish: ProShield, color specified.

4. Hand Cycler Plate: Weldment comprised of 1/8" (3,18 mm) HRPO flat steel, and 1.156" (29,36 mm) diameter steel collar. Finish: ProShield, color specified.
5. Handhold: High density polyethylene, black in color.
6. Rotor: Weldment comprised of 3/4" (19,05 mm) diameter stainless steel shaft and .500" (12,7 mm) thick 300 series stainless steel.
7. Side Panel: Recycled Permalene, color specified.
8. Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS40 (.120"-.130")(3,04 mm-3,30 mm) wall galvanized steel tube, 1/4" (6,35 mm) HRPO sheet steel, 1/2" (12,7 mm) HRPO sheet steel, .125" (3,18 mm) HRPO flat steel, .375" (9,53 mm) HRPO flat steel and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.
9. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).
10. Support: Weldment comprised of 1.900" (48,26 mm) O.D. RS40 (.120"-.130")(3,04 mm-3,30 mm) wall galvanized steel tube, 1/4" (6,35 mm) HRPO sheet steel, 1/2" (12,7 mm) HRPO sheet steel, .125" (3,18 mm) HRPO flat steel, .375" (9,53 mm) HRPO flat steel and 3/16" (4,75 mm) HRPO sheet steel. Finish: ProShield, color specified.
11. Adjustment Knob: Aluminum. Finish: ProShield, black in color.
12. Resistance Assy.: Resistance mechanism features wear-resistant composites that provide bi-directional resistance. Mechanism is mounted in a housing comprised of 11 GA. (.120") (3,05 mm) thick steel cover. Finish: ProShield, color specified.

206-9.5.9 205942A Steel Post w/1 Top Attachment DB.

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield® , gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Attachment Cover: Fabricated from A356 sand casted aluminum. Finish: Proshield, carbon in color.
3. Post: Weldment comprised of 5.000" (127 mm) O.D. 11 GA. (.120") (3,05 mm) wall galvanized steel tubing, 1.315" (33,4 mm) O.D. RS20 (.080" - .090") (2,03 mm-2,28 mm) wall galvanized steel tubing, 1/4" (6,35 mm) HRPO steel sheet and 5" (127 mm) O.D. aluminum post cap. Finish: ProShield®, carbon in color.

4. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.5.10 205944A Steel Post w/2 and 0 Attachments DB.

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Attachment Cover: Fabricated from A356 sand casted aluminum. Finish: Proshield, carbon in color.
3. Post: Weldment comprised of 5.000" (127 mm) O.D. 11 GA. (.120") (3,05 mm) wall galvanized steel tubing, 1.315" (33,4 mm) O.D. RS20 (.080" - .090") (2,03 mm-2,28 mm) wall galvanized steel tubing, 1/4" (6,35 mm) HRPO steel sheet and 5" (127 mm) O.D. aluminum post cap. Finish: ProShield, carbon in color.
4. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.5.11 205947A Steel Post w/3 Attachments DB.

1. Sign Panel: Panel is fabricated from 11 GA. (.120") (3,05 mm) aluminum. Finish: ProShield, gray in color. (Sign) Digital image is transferred to a .120" (3,05 mm) thick ProShield coated aluminum plate, then infused into the ProShield.
2. Attachment Cover: Fabricated from A356 sand casted aluminum. Finish: Proshield, carbon in color.
3. Post: Weldment comprised of 5.000" (127 mm) O.D. 11 GA. (.120") (3,05 mm) wall galvanized steel tubing, 1.315" (33,4 mm) O.D. RS20 (.080" - .090") (2,03 mm-2,28 mm) wall galvanized steel tubing, 1/4" (6,35 mm) HRPO steel sheet and 5" (127 mm) O.D. aluminum post cap. Finish: ProShield, carbon in color.
4. Fasteners: Primary fasteners shall be socketed and pinned tamperproof in design, stainless steel (SST) per ASTM F 879 unless otherwise indicated (see specific product installation/specifications).

206-9.6 Warranty.

1. Manufacturer warrants that all play structures and/or equipment sold will conform in kind and in quality to the specifications manual for the products identified in the Acknowledgment of Order and will be free of defects in manufacturing and material. Manufacturer further warrants:
2. 100-year limited warranty on all PlayBooster and PlayShaper aluminum posts, stainless steel fasteners, clamps, beams and caps against structural failure due

to corrosion/natural deterioration or manufacturing defects, and on PlayBooster steel posts against structural failure due to material or manufacturing defects.

3. 15-year limited warranty on all Evos and Weevos steel arches, all plastic components (including TuffTimbers edging), all aluminum and steel components not covered above, Mobius climbers, Rhapsody Outdoor Musical Instruments, decks and TenderTuff coatings (except Wiggle Ladders, Chain Ladders and Swing Chain) against structural failure due to material or manufacturing defects.
4. 10-year limited warranty on concrete products against structural failure due to natural deterioration or manufacturing defects. Does not cover minor chips, hairline cracks or efflorescence.
5. 8-year limited warranty on Aeronet climbers and climbing cables against defects in materials or manufacturing defects.
6. 5-year limited warranty on Rhapsody cables and mallets against defects in materials or manufacturing defects, on polycarbonate panels against defects in materials or manufacturing defects, and on bamboo panels against delamination due to defects in materials or manufacturing defects. Does not cover damage which may be associated with the natural characteristics of bamboo aging, including but not limited to discoloration, splitting, cracking, warping or twisting, nor the formation of algae, mold and other forms of fungal-type bodies on bamboo.
7. 3-year limited warranty on all other parts, i.e.: Pulse products, all swing seats and hangers, Mobius climber handholds, Wiggle Ladders, Chain Ladders and ProGuard Swing Chain, Track Ride trolleys and bumpers, all rocking equipment including Sway Fun gliders, belting material, HealthBeat resistance mechanism, Seesaws, etc., against failure due to corrosion/ natural deterioration or manufacturing defects.
8. The environment near a saltwater coast can be extremely corrosive. Some corrosion and/or deterioration is considered normal wear in this environment. Product installed within 500 yards (457 meters) of a saltwater shoreline will only be covered for half the period of the standard product warranty, up to a maximum of five years, for defects caused by corrosion. Products installed in direct contact with saltwater or that are subjected to salt spray are not covered by the standard warranty for any defects caused by corrosion.
9. This warranty does not include any cosmetic issues or wear and tear from normal use of the product, or misuse or abuse of the product. It is valid only if the play structures and/or equipment are erected to conform with the manufacturer's installation instructions and maintained according to the maintenance procedures furnished by the manufacturer.

206-10 OBSTACLE COURSE FITNESS EQUIPMENT.

206-10.1 General.

206-10.1.1 Quality Assurance.

1. Installer Qualifications: An experienced installer familiar with local building codes and with the latest safety guidelines, who has completed installation of playground structures similar in material, design, and extent to that indicated for this project, and whose work has resulted in construction with a record of successful in-service performance.
2. Acceptable Manufacturers: Provide play structure/components as manufactured by BCI Burke Company, LLC, (920) 921- 9220, or approved equal.
3. Product Options: Drawing indicates size, components and dimensional requirements of playground structure and is based on the specific system indicated.

206-10.1.2 Submittals.

1. Product Data: Include physical characteristics such as materials, dimensions and finish.
2. Shop Drawings: Show assembly and installation details.
3. Samples for Verification: Color selections for all component types.
4. Warranty: Include manufacturer's standard warranty.

206-10.1.3 References.

1. ASTM F1487 Standard Consumer Safety Performance Specification for Playground Equipment for Public use CAN/CSA-Z614 Children's Playspaces and Equipment.
2. ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.
3. U.S. Consumer Products Safety Commission Handbook for Public Playground Safety.
4. Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Play Areas, amended November 20, 2000.

206-10.1.4 Delivery, Storage and Handling.

1. Inspect all components on delivery to ensure that no damage occurred during shipping or handling. Materials shall be stored in original undamaged packaging in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism, and theft until ready for installation. Inspect components prior to installation.

206-10.2 Materials.

206-10.2.1 General product material specifications.

1. Clamps:
 - a) KoreKonnnect clamp castings [Nucleus, Voltage] shall be cast aluminum heat-treated alloy A356-T6 with a tensile strength of at least 34,000 psi, yield strength of at least 24,000 psi, shear of 20,700 psi, and elongation of 3.50% minimum. Each casting shall clamp to the post with two connection bolts. Clamp casting shall encapsulate the component attached to support surge loads, preventing surge loads being supported by only the hardware. Clamp shall be finished with a baked-on powder coating.
 - b) Clamp Castings [Little Buddies] shall be cast aluminum heat-treated alloy A356-T6 with a tensile strength of at least 34,000 psi, yield strength of at least 24,000 psi, shear of 20,700 psi, and elongation of 3.50% minimum. Each casting shall clamp to the post with one connection bolt. Clamp shall be finished with a baked-on powder coating.
2. Platforms:
 - a) Platforms [Nucleus, Synergy, Voltage, Little Buddies] One piece all welded construction consisting of 12 GA HRPO steel shell and gussets, PVC coated after fabrication. Platforms shall connect to posts with EZKonnnect (patent pending) self-leveling fastening system, with two attachment points per corner, one of those being an open-ended slot for easy assembly. Platform fasteners shall attach to threaded inserts which are CNC precision factory installed into the posts.
 - b) Recycled Platforms [Nucleus] One piece all welded construction consisting of 12 GA HRPO steel shell and gussets, PVC coated after fabrication. Platforms shall connect to posts with EZKonnnect (patent pending) self-leveling fastening system, with two attachment points per corner, one of those being an open-ended slot for easy assembly. Platform fasteners shall attach to threaded inserts which are CNC precision factory installed into the posts. Boards are a one-piece solid, non-hollow foamed recycled HDPE (ReHDPE).
 - c) 90 Degree Platform [Nucleus, Voltage] One piece all welded construction consisting of 12 GA HRPO steel shell and gussets, PVC coated after fabrication. Platforms shall connect to posts with

patented EZKconnect self-leveling fastening system, with two attachment points per corner, one of those being an open-ended slot for easy assembly. Platform fasteners shall attach to threaded inserts which are CNC precision factory installed into the posts. Barriers shall be one piece all welded construction consisting of 1.315" OD x 12 GA & 1.029" OD x 14 GA galvanized steel tubing, and 10 GA galvanized steel plate. Finished with a baked-on powder coating.

- d) Crescent Platform: Platform mount shall be one piece all welded construction consisting of 2.375" 12ga and 1.315" 14ga formed galvanized tubing, 7ga stainless steel and 8ga galvanized steel plates, finished with a baked-on powder coating. Platform panel shall be 3/4" co-extruded HDPE.
3. Fasteners:
- a) Button head cap screws and socket head cap screws shall be 302HQ corrosion resistant, passivated, stainless steel, tamper resistant, and pre-treated with a locking/sealing adhesive.
 - b) Other stainless steel hardware shall be 302HQ corrosion resistant stainless steel.
 - c) Non stainless steel hardware shall be zinc plated grade 5 steel.
 - d) Threaded Post Nut Inserts [Nucleus, Voltage, Little Buddies] shall be a corrosion resistant threaded insert crimped into post. Inserts shall be precision CNC located and factory installed for all attachment points.
4. Rotationally Molded Plastic Parts, shall be manufactured from color compounded, linear, low-density polyethylene with an average of 250" wall thickness and textured non-sliding surfaces. Plastic parts shall be UV stabilized to UV-16 and shall have a density of 0.935 per ASTM D-1505. Plastic parts shall have a tensile strength at yield no less than 2500 psi with flexural modulus of 87,200 psi.
5. HDPE plastic panel parts shall be precision cut from a single solid sheet of either .50" or .75" thick UV-stabilized extruded high-density polyethylene with colors molded in, with a durable matte finish. The material will have a density of 59.6 lbs/cu.ft. and a tensile strength of 4000psi. All edges shall be rounded or chamfered for safe play.
6. Play Mats are 100% recycled rubber buffing's bonded with urethane.
7. Posts, steel [Nucleus, Voltage, Little Buddies, Synergy] shall be cold-formed steel tubing with a yield test of at least 50,000 psi and a tensile strength of at least 55,000 psi. Tube members shall comply with ASTM A-135 and ASTM A-500 Grade B minimum and shall be tested according to ASTM E-8.
- a) Tubing Exteriors shall be triple coated for maximum exterior protection: galvanized, then coated with a chromate conversion coating and finished with a baked-on powder-coat.

- b) Tubing interiors shall be coated with a corrosion resistant zinc-rich coating.
 - c) Tubing and cap finished with a baked-on powder coating.
 - d) Standard posts shall be an assembly consisting of the galvanized steel tubing with a cast aluminum cap factory installed in the post with 1/8" x 15/32" stainless steel pinned aluminum drive rivets.
 - e) Posts [Nucleus, Intensity] shall be 5" OD x 11 GA galvanized steel tubing.
 - f) Posts [Little Buddies] shall be 2 3/8" OD x 12 GA galvanized steel tubing.
 - g) Posts [Voltage, Synergy] Post shall be 3 1/2" OD x 11 GA galvanized steel tubing.
8. Posts, aluminum [Nucleus, Voltage, Intensity, Synergy] shall be extruded aluminum tubing with a yield test of at least 35,000 psi and a tensile strength of at least 38,000 psi. Tube members shall comply with and shall be tested according to ASTM B-221. Standard posts shall be an assembly consisting of the extruded aluminum tubing with a cast aluminum cap factory installed in the post with 1/8" x 15/32" stainless steel pinned aluminum drive rivets.
- a) Posts [Nucleus, Intensity] shall be 5" OD x 1/8" wall thickness aluminum tubing.
 - b) Posts [Synergy, Voltage] Post shall be 3 1/2" OD x 1/8" wall thickness aluminum tubing.

206-10.2.2 Description of Coatings.

1. PVC Coating (Poly-Vinyl Chloride): Prior to coating, each part shall be chemically washed, submerged in a heat-activated primer and dried. After drying, each part shall be pre-heated to a temperature no less than 350° F and immersed in liquid PVC. Play/usage surfaces shall have coating thickness of .085-.150 in. Park and site surfaces (i.e. benches, picnic tables) shall have coating thickness of .050-.080 in. PVC shall comply with California Assembly Bill #1108 by having a concentration that does not exceed 0.1% of the following phthalates; DINP, DIDP, DnOP, DEHP, or BBP. This formulation is also free of heavy metals such as Lead and Cadmium. The PVC shall have:
- a) Tensile strength of no less than 1830 psi per ASTM 412.
 - b) Elongation of no less than 350% per ASTM 412.
 - c) Tear strength of no less than 250 lb./in. per ASTM 624.
 - d) Hardness of 75 +/- 3 (Durometer, Shore A) per ASTM 2240.
 - e) UV stabilizer shall be added to PVC to withstand one year in a QUV panel tester without any significant color drift.

- f) Burn Rate will meet or exceed Federal Safety Standard MVSS 302. This is the same as a UL 94 HB rating.
2. Powder Coating – Standard and Super Durable colors: All metal parts will be coated with a two-part powder coat system that consists of a primer and a top coat. Powder coating is electrostatically applied at a thickness of 3 to 6 mils (.003 - .006). Prior to powder coating, all parts shall be cleaned and pretreated with a 5 stage non-phosphate and non-chromic process. The primer is cured before applying the top coat which is a polyester/TGIC powder coating with superior color-, gloss-, and UV stabilizers. Note: Top coat may be Standard or Super Durable powder coating depending on specific color availability. Finish quality conforms to ASTM Specifications and will have the following properties:
- a) Adhesion: No less than 5B [The edges of the cuts are completely smooth; none of the squares of the lattice is detached.] (cross hatch/tape adhesion test per ASTM D3359 Method B).
 - b) Hardness: No less than 2H (pencil hardness test per ASTM B3363).
 - c) Resistance to Impact: Cracking at the perimeter of the concave area, but no cracking pick off from 80 in/lb direct or reverse impact (ASTM D2794).
 - d) Resistance to Bending: No visible cracking (1/8" bending test per ASTM 522).
 - e) Degree of Gloss: No less than 80% reflected (specular gloss test at 60° per ASTM D523).
 - f) Resistance to Salt Spray (Standard colors): No more than 1/8" undercutting and no blistering in 1000 hours (salt spray test per ASTM B117)
 - g) Resistance to Humidity (Standard colors): No more than 1/8" undercutting and no blistering in 1000 hours (humidity test per ASTM D2247) Further properties for specific Super Durable colors:
 - h) Resistance to Acid Salt Spray (Super Durable colors): No more than 1/32" undercutting and no blistering in 3000 hours (salt spray test per ASTM G85 Annex 5).
 - i) Resistance to Humidity (Super Durable colors): No more than 1/32" undercutting and no blistering in 3000 hours (humidity test per ASTM D2247)
 - j) Weathering (Super Durable colors): No less than 4 (tested per EN 20105-A02)
 - k) Light fastness (Super Durable colors): No less than Grade 7 (tested per EC ISO 105-B02)
3. Corrosion protection: All metal parts will either have inherent corrosion protection such as stainless steel, aluminum or galvanized steel, or they will

be pre-treated prior to powder coating with either an e-coat or zinc clear chromate coating for superior corrosion protection.

206-10.2.3 Barriers and Enclosures.

1. Center Mount Enclosure [Nucleus, Voltage]: One piece all welded construction consisting of 3 1/2" OD X 11 GA, 1.315" OD X 12 GA & 1.029" x 14 GA galvanized steel tubing and 10 GA galvanized sheet. Finished with a baked-on powder coating.
2. Clubhouse Enclosures [Nucleus]:
 - a) Clubhouse Full Board Panel and Clubhouse Half Board Panel consists of 3/4" recycled HDPE with wood grain texture, 1.315" OD x 14 GA galvanized steel tubing and zinc plated steel nut inserts. Finished with a baked-on powder coating, and castings made of A356-T6 aluminum, heat-treated. Finished with baked on powder coating. The hardware package contains stainless steel button head cap screws, nuts, and washers; and aluminum rivets with 302 stainless steel pin.
 - b) Clubhouse Upper Board Panel consists of 3/4" recycled HDPE with wood grain texture, bracket that is one piece all welded construction consisting of 10 GA galvanized sheet steel and a formed 3/16" stainless steel plate, finished with baked on powder coating. The hardware package contains stainless steel button head cap screws, washers and barrel nuts.
3. Enclosures [Little Buddies]: 3/4" co-extruded H.D.P.E.
4. Enclosures and Stanchions [Synergy Imagination]: 3/4" co-extruded HDPE face mounted to 3 1/2" OD posts. Filler bracket consisting of 1/2" extruded HDPE and a bracket consisting of 1 3/4" SQ X 12 GA galvanized steel tubing finished with a baked-on powder coating. One-piece welded construction consisting of 1.315" OD galvanized tubing and 7 GA stainless steel brackets. Finished with a baked-on powder coat.
5. Enclosures, Climbers, Climbers 2-5 [Synergy]: Synergy side enclosure shall be one-piece welded construction consisting of 1.315" OD galvanized tubing and 7 GA stainless steel brackets. Finished with a baked-on powder coat.
6. Enclosures and Stanchions [Nucleus, Synergy, Voltage]: One piece all welded construction consisting of 1.315" OD x 14 GA, 1.315" OD x 12 GA, and 1.029" OD x 14 GA galvanized steel tubing, and HDPE threaded inserts. Finished with a baked-on powder coating.
7. Enclosure, Offset [Nucleus, Voltage]: One piece all welded construction consisting of 1.315" OD x 14 GA and 1.029" OD x 14 GA galvanized steel tubing, 10 GA galvanized sheet and HDPE threaded inserts. Finished with a baked-on powder coating.
8. Enclosure, Offset [Synergy]: One piece all welded construction consisting of 1.315" OD x 14 GA, 12 GA and 1.029" OD x 14 GA galvanized steel tubing and 7 GA stainless steel brackets finished with a baked-on powder coating.

9. Evolution Barriers and Enclosures [Nucleus]: Shall consist of a weldment that is one piece all welded construction consisting of 1.315" OD X 12 GA galvanized steel tubing, 1.315" OD X 14 GA galvanized steel tubing, 13/16" OD X 15 GA or 1.029" OD x 14 GA galvanized steel tubing, and 8 GA and 10 GA galvanized steel plating, which is finished with a baked-on powder coating. The barriers shall have panel that are made of either 3/4" extruded HDPE or 3/4" co-extruded HDPE. There shall be castings that are A356-T6 aluminum, heat-treated, which are finished with a baked-on powder coating. All hardware shall be stainless steel nuts, screws, and washer.
10. Evolution Stairway and Bridges [Nucleus]: Shall consist of a weldment that is one piece all welded construction consisting of 1.315" OD X 12 GA galvanized steel tubing, 1.315" OD X 14 GA galvanized steel tubing, 13/16" OD X 15 GA or 1.029" OD x 14 GA galvanized steel tubing, and 8 GA and 10 GA galvanized steel plating, which is finished with a baked-on powder coating. The barriers shall have panel that are made of either 3/4" extruded HDPE or 3/4" co-extruded HDPE. There shall be castings that are A356-T6 aluminum, heat-treated, which are finished with a baked-on powder coating. All hardware shall be stainless steel. One piece all welded construction consisting of 12 GA HRPO steel surfaces, sides and gussets. PVC coated after fabrication.
11. Internal Barrier [Voltage]: Shall consist of four separate parts each being all welded construction consisting of 1.660" OD x 12 GA and 1.315" OD x 14 GA galvanized steel tube and 10 GA galvanized steel plate finished with a baked on powder coating.
12. Pipe Walls, Nature Play Pipe Wall [Nucleus, Voltage, Little Buddies]: One piece, all welded construction consisting of 1.315" OD x 14 GA and 1.029" OD x 14 GA galvanized steel tubing, and 1 1/2" x 1/2" x 10 GA formed galvanized steel plate. Finished with a baked-on powder coating.
13. Pipe Wall with Steering Wheel or Telescope mount [Synergy]: One piece, all welded construction consisting of 1.315" OD x 14 GA and 1.029" OD x 14 GA, galvanized steel tubing, and 1 1/2" x 1/2" x 10 GA formed galvanized steel plate and 304 SS machined shaft and 7 GA stainless steel brackets, and 1.135" OD galvanized tubing and 7GA stainless steel brackets and threaded insert. Finished with a baked-on powder coating.
14. Platform Barrier [Synergy, Nucleus]: barrier panel shall be 3/4" co-extruded HDPE. Hardware package shall be stainless steel screws, nuts & washers.
15. Pipe Wall [Little Buddies]: One piece all welded construction consisting of 1.315" OD x 14 GA wall and 1.029" OD x 14 GA wall galvanized tubing, 1 1/2" x 1/2" x 1/8" HR steel channel and zinc coated grade 32510 malleable iron mounting lugs. Finished with a baked-on powder coating.
16. Slotted Barrier [Nucleus, Voltage, Little Buddies]: 3/4" co-extruded H.D.P.E.
17. Stanchion [Little Buddies]: One piece all welded construction consisting of 1.315" OD x 14 GA, 1.315" OD x 12 GA, and 1.029" OD x 14 GA galvanized steel

tubing, and zinc coated grade 32510 malleable iron mounting lugs. Finished with a baked-on powder coating.

206-10.2.4 Brackets.

1. Panel Brackets [Synergy, Voltage]: for accessible reach panels, upper board panels and battlement panels shall be one piece all welded construction consisting of 7 GA stainless steel formed plate and 8 GA galvanized sheet steel finished with a baked-on powder coating.
2. Mounting Brackets [Voltage]: Bracket shall be one piece all welded construction consisting of 3/16" stainless steel plate and 1.029" OD x 14 GA or 1.315" OD x 12 GA galvanized steel tubing. Finished with a baked-on powder coating.
3. Mounting Tubes [Little Buddies]: Tube shall be one piece all welded construction consisting of 1.315" OD x 14 GA galvanized steel tubing and a stainless steel threaded insert. Finished with a baked-on powder coating.
4. Mounting Tubes [Synergy, Voltage, Nucleus]: Tube shall be one piece all welded construction consisting of a 1.315 OD x .083" wall galvanized tube and a 12L14 steel threaded insert. Finished with a baked-on powder coating.
5. Panel Mounting Tubes [Synergy, Voltage]: Tube shall be one piece all welded construction consisting of 3/16" stainless steel plates and 1.315" OD x 12 GA galvanized steel tubing. Finished with a baked-on powder coating.
6. Slide Entrance Brackets [Voltage, Nucleus, Synergy]: Bracket shall be 14 GA galvanized steel plate finished with a baked-on powder coating.
7. Steering Wheel Mount Bracket [Voltage, Little Buddies]: and Post-Mounted Ship's Wheel Bracket [Nucleus] Bracket shall be one piece all welded construction consisting of a 3/16" stainless steel plate and a stainless-steel threaded shaft. Finished with a baked-on powder coating.

206-10.2.5 Bridges.

1. Arched Bridge [Nucleus, Voltage, Synergy], Mini Arched Bridge [Nucleus, Voltage, Little Buddies]: One piece all welded construction consisting of 12 GA HRPO steel and PVC coated after fabrication. Spacer casting shall be 356-T6 aluminum, heat treated with a baked-on powder coating.
 - a) Barriers [Nucleus, Voltage,] shall be one piece all welded construction consisting of 1.315" OD x 12 GA & 1.029" OD x 14 GA galvanized steel tubing, and 10 GA galvanized steel plate. Finished with a baked-on powder coating.
 - b) Barriers [Synergy] shall be one piece all welded construction consisting of 1.315" OD x 12 GA galvanized steel tubing and formed 7 GA stainless steel plate.
 - c) Barriers [Little Buddies] shall be ¾" extruded H.D.P.E.
 - d) Guardrails [Nucleus, Voltage] shall be one piece all welded construction consisting of 1.315" OD x 12 GA & 1.029" OD x 14 GA

galvanized steel tubing, and 10 GA galvanized steel plate. Finished with a baked-on powder coating.

2. Arched Catwalk Bridge [Nucleus, Voltage]: One piece all welded construction consisting of 12 GA HRPO steel surfaces with 12 GA sides and gussets [Voltage] or 7 GA sides and gussets [Nucleus] and PVC coated after fabrication. Barriers shall be one piece all welded construction consisting of 1.315" OD x 12 GA & 1.029" OD x 14 GA galvanized steel tubing, and 10 GA galvanized steel plate, finished with a baked-on powder coating. Spacer casting shall be 356-T6 aluminum, heat treated with a baked-on powder coating.
3. Buckle Bridge [Nucleus, Voltage]: Plank connectors shall be 304 stainless steel finished with a baked-on powder coating. Bushings shall be oil-impregnated SAE 841 bronze, Spacer casting shall be 356-T6 aluminum, heat treated with a baked-on powder coating. Entrance planks and planks shall be one piece all welded construction consisting of a 12 GA HRPO steel surface, 1/4" HR steel sides, and 303 annealed stainless steel threaded studs. PVC coated after fabrication.
 - a) Guardrails shall be one piece all welded construction consisting of 1.315" OD x 12 GA and 1.029" OD x 14 GA galvanized steel tubing, and 10 GA galvanized sheet steel. Finished with a baked-on powder coating.
 - b) Barriers shall be one piece all welded construction consisting of 1.315" OD x 12 GA and 1.029" OD x 14 GA galvanized steel tubing, and 10 GA galvanized sheet steel. Finished with a baked-on powder coating.
4. Conveyor Belt Bridge [Voltage]: Hanger plates shall be 7 GA HRPO steel and finished with a PVC coating. Belt hangers shall be one piece all welded construction consisting of 7 GA HRPO steel and weld studs. Finished with a PVC coating. Rubber belt shall be 3/8" nylon belted rubber.
 - a) Guardrails shall be one piece all welded construction consisting of 1.315" OD x 12 GA & 1.029" OD x 14 GA galvanized steel tubing, and grade 32510 malleable iron support pins. Finished with a baked-on powder coating.
5. Deck to Deck Plank [Nucleus, Voltage, Little Buddies, Synergy]: Plank steps shall be 3/4" co-extruded H.D.P.E. Deck to deck plank shall be one piece all welded construction consisting of 12 GA HRPO steel and PVC coated after fabrication. Handholds shall be one piece all welded construction consisting of 1.029" OD x 14 GA galvanized steel tubing and 14 GA galvanized steel and finished with a baked-on powder coating. Anchor tubes shall be 1.315" OD x 12 GA galvanized steel tubing and finished with a baked-on powder coating.
6. Straight Bridge [Nucleus, Voltage]: One piece all welded construction consisting of 12 GA surfaces and 11 GA gussets. PVC coated after fabrication. Spacer casting shall be 356-T6 aluminum, heat treated with a baked-on powder coating.

- a) Barriers shall be one piece all welded construction consisting of 1.315" OD x 12 GA & 1.029" OD x 14 GA galvanized steel tubing, and 10 GA galvanized steel plate. Finished with a baked-on powder coating.
- b) Guardrails shall be one piece all welded construction consisting of 1.315" OD x 12 GA & 1.029" OD x 14 GA galvanized steel tubing, and 10 GA galvanized steel plate. Finished with a baked-on powder coating.

206-10.2.6 Door Knob Jam.

- 1. FITNESS GRIP: Casted A356 aluminum, finished with a baked on powder coating.
- 2. OVERHEAD WALL CLIMBER PANEL LARGE: 3/4" Extruded HDPE
- 3. OVERHEAD WALL CLIMBER PANEL SMALL: 3/4" Extruded HDPE
- 4. WELDMENT, OVERHEAD: One piece all welded construction consisting of 10 GA x 2.375" OD galvanized tubing, 1.315" OD x 14 GA galvanized embossed steel tubing, 7 GA and 10 GA galvanized steel sheet and eight threaded inserts. Finished with a baked on powder coating.
- 5. WELDMENT, MID CLIMBING WALL: One piece all welded construction consisting of 10 GA x 2.375" OD galvanized tubing, 7 GA and 10 GA galvanized steel sheet. Finished with a baked on powder coating.
- 6. BRACKET ELLIPTICAL, ROPE CONNECTION: One piece all welded construction consisting of 7 GA SS sheet and 8 GA galvanized steel plating. Finished with a baked on powder coating.
- 7. WELDMENT, LOW CLIMBING WALL: One piece all welded construction consisting of 10 GA x 2.375" OD galvanized tubing, 7 GA and 10 GA galvanized steel sheet. Finished with a baked on powder coating.

206-10.2.7 Frog Hop.

- 1. PLYO BLOCK INSERT: 3/4" Extruded HDPE
- 2. ROPE ASSEMBLY 61 3/16": Rope consists of 6 right hand, regular lay strands, closed around a synthetic fiber core, with each preformed strand consisting of 8 galvanized steel wires tightly covered with polyester fibers. Aluminum end connectors and ferrules with stainless steel screws.
- 3. ROPE ASSEMBLY 17 11/16": Rope consists of 6 right hand, regular lay strands, closed around a synthetic fiber core, with each preformed strand consisting of 8 galvanized steel wires tightly covered with polyester fibers. Aluminum end connectors and ferrules with stainless steel screws.
- 4. PLYO BLOCK SUPPORT 40": One piece all welded construction consisting of 2 3/8" OD x 12 GA galvanized steel tubing and 10 GA galvanized sheet steel. Finished with a baked on powder coating.
- 5. PLYO BLOCK CAP: One piece all welded construction consisting of 12 GA galvanized steel sheet with studs welded into place. PVC coated after fabrication.

6. FLOATING STEP FRAME: One piece all welded construction consisting of 1.029" OD x 14 GA galvanized steel tubing, 10 GA galvanized steel sheet with studs welded into place. Finished with a baked on powder coating.
7. UPPER LEFT BEAM: One piece all welded construction consisting of formed 2 3/8" OD x 10 GA galvanized steel tubing, 7 GA stainless steel sheet and 8 GA galvanized steel plate. Finished with a baked on powder coating.
8. UPPER RIGHT BEAM : One piece all welded construction consisting of formed 2 3/8" OD x 10 GA galvanized steel tubing, 7 GA stainless steel sheet and 8 GA galvanized steel plate. Finished with a baked on powder coating.
9. LOWER LEFT BEAM: One piece all welded construction consisting of formed 2 3/8" OD x 10 GA galvanized steel tubing, 7 GA stainless steel sheet and 8 GA galvanized steel plate. Finished with a baked on powder coating.
10. LOWER RIGHT BEAM: One piece all welded construction consisting of formed 2 3/8" OD x 10 GA galvanized steel tubing, 7 GA stainless steel sheet and 8 GA galvanized steel plate. Finished with a baked on powder coating.
11. ARCHED BEAM: One piece all welded construction consisting of formed 2 3/8" OD x 10 GA galvanized steel tubing, 7 GA stainless steel sheet. Finished with a baked on powder coating.
12. BRASS SPACER 7/16" OD X 1 1/4": Brass Tube 7/16" OD X .028" Wall

206-10.2.8 FS Sign, Custom/Custom.

1. FS SIGN FRAME: 10 GA GALV steel finished with baked-on black powder coating.
2. ARCH POST, SIGN: One piece all welded construction consisting of 2 3/8" OD x 12 GA galvanized steel tubing and 10 GA galvanized sheet steel. Finished with a baked on powder coating.
3. CUSTOM SIGN, BOTH SIDES: A full color graphic sign printed on 3 mm DiBond

206-10.2.9 Jungle Pipeline.

1. PARALLEL BAR: One piece all welded construction consisting of formed 1.900" OD x 11 GA galvanized steel tubing and 7 GA galvanized steel sheet. Finished with a baked on powder coating.

206-10.2.10 Lava Leap.

1. PLYO BLOCK LARGE INSERT: 3/4" Extruded HDPE
2. ANGLED PLYO BLOCK SUPPORT: One piece all welded construction consisting of 2 3/8" OD x 12 GA galvanized steel tubing and 10 GA galvanized sheet steel. Finished with a baked on powder coating.
3. PLYO BLOCK CAP LARGE: One piece all welded construction consisting of 2 3/8" OD x 12 GA galvanized steel plate. PVC coated after fabrication.

206-10.2.11 Mighty Max.

1. CAP: 3/4" co-extruded HDPE
2. ROPE CLIMBER ASSEMBLY: Rope consists of 6 right hand, regular lay strands, closed around a synthetic fiber core, with each preformed strand consisting of 8 galvanized steel wires tightly covered with polyester fibers. Aluminum end connectors and ferrules with stainless steel screws.
3. ROPE CLIMBER, HORIZONTAL SUPPORT: One piece all welded construction consisting of 2 3/8" x 12 GA galvanized steel tubing and 8 GA galvanized steel plating. Finished with baked on powder coat.
4. ROPE CLIMBER, VERTICAL SUPPORT: One piece all welded construction consisting of 2 3/8" x 12 GA galvanized steel tubing, 2 3/8" x 12 GA galvanized steel swaged tubing, and 10 and 12 GA galvanized steel plating. Finished with baked on powder coat.

206-10.2.12 Summit Bridge.

1. PVC COATED, 4/0 CHAIN 12 3/4": 3/8" diameter, 4/0 straight coil chain. PVC coated after fabrication.
2. ANCHOR TUBE: 1.315" OD x 12 GA galvanized steel tubing.
3. PANEL, ROPE WALL: 3/4" Extruded HDPE
4. PANEL, PLATFORM: 3/4" Extruded HDPE
5. ROPE ASSEMBLY, TAB TO TAB 118 7/8": Rope consists of 6 right hand, regular lay strands, closed around a synthetic fiber core, with each preformed strand consisting of 8 galvanized steel wires tightly covered with polyester fibers. Aluminum end connectors and ferrules.
6. ROPE ASSEMBLY, FITNESS NET: Rope consists of 6 right hand, regular lay strands, closed around a synthetic fiber core, with each preformed strand consisting of 8 galvanized steel wires tightly covered with polyester fibers. Aluminum end connectors and ferrules with stainless steel screws.
7. ROPE ASSEMBLY, TAB TO EYE 118": Rope consists of 6 right hand, regular lay strands, closed around a synthetic fiber core, with each preformed strand consisting of 8 galvanized steel wires tightly covered with polyester fibers. Aluminum end connectors, grips, and ferrules with stainless steel screws.
8. FORMED TUBE Ø1.660 OD X 94 3/4": 1.660" OD x 12 GA galvanized steel tubing. Finished with a baked on powder coating.
9. BRACKET ELLIPTICAL, ROPE CONNECTION: One piece all welded construction consisting of 7 GA SS sheet and 8 GA galvanized steel plating. Finished with a baked on powder coating.
10. PLATFORM SUPPORT: One piece all welded construction consisting of 7 GA SS, 8 GA and 10 GA galvanized plating, and 1.900" OD x 11 GA galvanized steel tubing. Finished with baked on powder coating.

11. WELDMENT, S-TUBE: One piece all welded construction consisting of 7 GA SS and 8 GA galvanized plating, and 1.660" OD x 12 GA galvanized steel tubing. Finished with baked on powder coating.
21. WELDMENT, PLATFORM CAP: One piece all welded construction consisting of 12 GA HRPO steel sheet. PVC coated with textured traction surface after fabrication.
22. WELDMENT, ROPE CLIMB: One piece all welded construction consisting of 12 GA HRPO steel sheet. PVC coated with textured traction surface after fabrication.
23. WELDMENT, RAIL: One piece all welded construction consisting of 7 GA SS plate and 1.900" OD x 11 GA galvanized tubing. Finished with baked on powder coating.
24. ARCHED BEAM 1.660 OD X 36": One piece all welded construction consisting of 7 GA SS plate and 1.660" OD x 12 GA galvanized tubing. Finished with baked on powder coating.
25. BRASS SPACER 7/16" OD X 1 1/4": Brass Tube 7/16" OD X .028" Wall

206-10.2.13 Wall Clinger.

1. PLANK 3/4 X 11 11/16 X 61": 3/4" Extruded HDPE B. TUBE Ø1.660 X 57 13/16": -
2. WELDMENT, PLANK CAP: 12 ga. galvanized steel, dipped in slip-resistant PVC WITH GRAY OVERSPRAY coating.
3. WELDMENT, CURVY BEAM 79 3/4"
4. WELDMENT, CURVY BEAM 67 1/4"
5. WELDMENT, SPIDER WALL RIGHT
6. WELDMENT, SPIDER WALL LEFT
7. WELDMENT, SPIDER WALL MID
8. WELDMENT, CURVY BEAM 73 1/2"
9. PANEL ASSY, SPIDER WALL

206-10.3 Execution.

206-10.3.1 Site Preparation.

1. All new installation shall be laid out by the contractor in accordance with the construction plans.

206-10.3.2 Installation.

1. Install play structure in compliance with manufacturer's written instructions.
2. Install components in sequence as recommended by manufacturer.
3. Install play structure as indicated on the drawings provided.
4. Variations from the installation indicated must be approved.

5. Variations from the installation indicated and all costs for removal and replacement will be the responsibility of the contractor.

206-10.3.3 Cleaning.

- A. The contractor shall clean the jobsite of excess materials, including post hole excavations.

206-10.3.4 Demonstration.

- A. Instruct the owner's personnel on proper operation and maintenance of playground components.

206-11 MUSICAL INSTRUMENTS.

206-11.1 General.

206-11.1.1 Submittals.

1. Product Data: For each type of product indicated.
 - a) Manufacturer's standard product literature
 - b) Shop drawings
 - c) Installation instructions
 - d) Maintenance instructions
2. Samples for Verification: For each type of exposed finish indicated.

206-11.1.2 Quality Assurance.

1. Source Limitations: Obtain each type of instrument through one source from a single manufacturer.

206-11.1.3 Delivery, Storage and Handling.

1. Handle products in accordance with manufacturer's instructions.
2. Store products in manufacturer's original packaging until ready for installation.
3. Protect products from impacts and abrasion during storage.

206-11.1.4 Warranty.

1. Provide manufacturer's standard warranty.

206-11.2 Products.

206-11.2.1 Cajon Deluxe.

1. Manufacturer: Percussion Play, (866) 882-9170, or approved equal.
2. Materials:
 - a) 316 mirror polished marine grade stainless steel body.
 - b) Solid hardwood top.

3. Mounting: Provide mounting hardware and installation instructions.

206-11.2.2 Handpipes.

1. Manufacturer: Percussion Play, (866) 882-9170, or approved equal.
2. Materials:
 - a) HDPE body with 304 stainless steel resonators.
 - b) 304 mirror polished stainless steel legs.
 - c) Vandal resistant 300 series stainless steel fixings.
3. Mounting: Provide mounting hardware and installation instructions.

206-11.2.3 Large Babel Drum.

1. Manufacturer: Percussion Play, (866) 882-9170, or approved equal.
2. Materials:
 - a) 316 mirror polished marine grade stainless steel tongue drum.
 - b) 316 mirror polished marine grade stainless steel cradle stand.
 - c) Vandal resistant fixings.
3. Mounting: Provide mounting hardware and installation instructions.

206-11.2.4 Tumbadoras.

1. Manufacturer: Percussion Play, (866) 882-9170, or approved equal.
2. Materials:
 - a) Stainless steel body and cap.
 - b) Stainless steel leg.
 - c) Vandal resistant 300 series stainless steel fixings.
3. Mounting: Provide mounting hardware and installation instructions.

206-11.2.5 Marimba.

1. Manufacturer: Percussion Play, (866) 882-9170, or approved equal.
2. Materials:
 - a) 316 mirror polished stainless steel frame.
 - b) GPR note bars, C3-C5, in the C Major diatonic scale.
 - c) 4 x 1 part vandal resistant mallets.
 - d) 300 series stainless steel vandal resistant fixings.
3. Mounting: Provide mounting hardware and installation instructions.

SECTION 209 – PRESSURE PIPE

209-1.1.1 General. To the “WHITEBOOK”, ADD the following:

1. PVC products, specifically type C900 and C905, as manufactured or distributed by J-M Manufacturing Company or JM Eagle shall not be used on the Contract for pressurized pipe.
2. Refer to AWWA C900-16 for all references to AWWA C905.

SECTION 210 – PAINT AND PROTECTIVE COATINGS

ADD:

210-6 EXTERIOR PAINT.

210-6.1 General.

210-6.1.1 Related Documents.

1. References: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Part 1 Specification Sections, apply to this Section.

210-6.1.2 Summary.

1. This Section includes surface preparation and the application of paint systems on the following exterior substrates:
 - a) Wood
 - b) Galvanized metal.
 - c) Exterior portland cement (stucco).
2. Product Data: For each type of product indicated.
 - a) For paints and coatings, including printed statement of VOC content.
3. Samples for Initial Selection: For each type of topcoat product indicated.
4. Samples for Verification: For each type of paint system and each color and gloss of topcoat indicated.
 - a) Submit Samples on rigid backing, 8 inches square.
 - b) Step coats on Samples to show each coat required for system.
 - c) Label each coat of each Sample.
 - d) Label each Sample for location and application area.
5. Product List: For each product indicated, include the following:
 - a) Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

210-6.1.3 Quality Assurance.

1. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample

submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

- a) Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 310.6.3.
 - i. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
 - ii. Other Items: Architect will designate items or areas required.
- b) Final approval of color selections will be based on benchmark samples.
 - i. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

210-6.1.4 Delivery, Storage, and Handling.

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

210-6.1.5 Project Conditions.

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

210-6.1.6 Extra Materials.

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

210-6.2 Products.

210-6.2.1 Manufacturers.

- 1. Specified Manufacturers: First quality finishes of Frazee, ICI, and Sherwin Williams are indicated. Subject to compliance with requirements and review and approval from architect, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. Additional Manufacturers:
 - a) Dunn-Edwards Corporation
 - b) Vista Paint.
 - c) Or equal
3. Manufacturer for primer and paint at exposed structural steel and metal fabrications:
 - a) Rustop 6000 by Performance Polymers Inc., distributed by FCS Coatings, or equal, No Known Equal.

210-6.2.2 Paint, General.

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

210-6.2.3 Primers/Sealers.

1. Alkali-Resistant Primer (Water Based):
 - a) Frazee 266 Epotilt
 - b) ICI 6001Prep & Prime Hydrosealer
 - c) SW Loxon Primer A24W300
2. Bonding Primer (Water Based):
 - a) Frazee 168 Prime Plus
 - b) ICI 3210 Prep & Prime Gripper
 - c) SW Adhesion Primer B51W8050
3. Wood-Knot Sealer: Sealer recommended in writing by topcoat manufacturer for use in paint system indicated.

210-6.2.4 Metal Primers.

1. Galvanized Primer at Exposed Structural Steel and Metal Fabrications.
 - a) Rustop 6000 by Performance Polymers Inc., distributed by FCS Coatings, or equal, No Known Equal.
2. Quick-Drying Alkyd Metal Primer (Hollow Metal Doors & Frames):
 - a) Frazee 661F Metal Primer

- b) ICI 4360 Low VOC Universal Primer
- c) SW Controls Rust Alkyd Metal Primer B49
- 3. Waterborne Galvanized-Metal Primer:
 - a) Frazee 561 Acrylic Metal Primer
 - b) ICI Devflex 4020
 - c) SW ProCryl Acrylic Metal Primer B66-310

210-6.2.5 Wood Primers.

- 1. Exterior Latex Wood Primer:
 - a) Frazee 168 Prime Plus
 - b) ICI 3210 Prep & Prime Gripper
 - c) SW PrepRite ProBlock Primer B51W20

210-6.2.6 Exterior Latex Paint.

- 1. Exterior Latex (Semigloss):
 - a) Frazee 124 Mirroglide Semigloss
 - b) ICI Dulux Professional Semigloss 2406
 - c) SW Solo Acrylic Semigloss B31WJ8651
- 2. Exterior Latex (Flat):
 - a) Frazee 203 Duratec
 - b) ICI Dulux Professional Flat 2200
 - c) SW A-100 Latex A6 Series

210-6.2.7 Exterior Alkyd Quick-Drying Enamels.

- 1. Quick-Drying Enamel (Semigloss):
 - a) Frazee 628 Aroplate II Semigloss
 - b) ICI Devguard 4306
 - c) SW Controls Rust B35 Series
- 2. Exterior Structural Steel And Metal Fabrications
 - a) Rustop 6000 by Performance Polymers Inc., distributed by FCS Coatings, or equal, No Known Equal.

210-6.3 Execution.

210-6.3.1 Examination.

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

2. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a) Wood: 15 percent
 - b) Plaster: 12 percent
3. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
4. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - a) Beginning coating application constitutes Contractor's acceptance of substrates and conditions

210-6.3.2 Preparation.

1. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
2. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - a) After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
 - b) Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
3. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 - a) Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
4. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.
5. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
6. Plaster Substrates: Do not begin paint operations until plaster is fully cured and dry.

210-6.3.3 Application.

1. Apply paints according to manufacturer's written instructions.
 - a) Use applicators and techniques suited for paint and substrate indicated.
 - b) Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
2. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
3. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
4. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
5. For exposed structural steel and metal fabrications, including guardrails and handrails, install primer coat of Rustop 6000 by Performance Polymers Inc., with an additional top coat of the same product.

210-6.3.4 Field Quality Control.

1. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:
 - a) Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
 - b) Testing agency will perform tests for compliance of paint materials with product requirements.
 - c) Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

210-6.3.5 Cleaning and Protection.

1. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

2. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
3. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
4. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

210-6.3.6 Exterior Painting Schedule.

1. Galvanized-Metal Substrates (Hollow Metal Doors & Frames):
 - a) Latex Over Water-Based Primer System:
 - i. Prime Coat: Waterborne galvanized-metal primer.
 - ii. Intermediate Coat: Exterior latex matching topcoat.
 - iii. Topcoat: Exterior latex (semigloss).
 - b) Alkyd System:
 - i. Prime Coat: Cementitious galvanized-metal primer.
 - ii. Intermediate Coat: Exterior alkyd enamel matching topcoat.
 - iii. Topcoat: Exterior alkyd enamel (semigloss).
2. Galvanized Structural Steel & Metal Fabrications
 - a) Primer Coat: Rustop 6000 by Performance Polymers Inc.
 - b) Top Coat: Rustop 6000 by Performance Polymers Inc.
3. Dressed Lumber Substrates: Including architectural woodwork, fascia, and trims.
 - a) Latex System:
 - i. Prime Coat: Exterior latex wood primer.
 - ii. Intermediate Coat: Exterior latex matching topcoat.
 - iii. Topcoat: Exterior latex (semigloss).
4. Stucco Substrates:
 - a) Latex System:
 - i. Prime Coat: Exterior latex matching top coat.
 - ii. Top Coat: Exterior latex flat.

210-7 INTERIOR PAINT.

210-7.1 General.

210-7.1.1 Related Documents.

1. References: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Part 1 Specification Sections, apply to this Section.

210-7.1.2 Summary.

1. This Section includes surface preparation and the application of paint systems on the following interior substrates:
 - a) Steel.
 - b) Galvanized metal.
 - c) Concrete.
 - d) Concrete Masonry.
 - e) Wood.
 - f) Gypsum board.

210-7.1.3 Submittals.

1. Product Data: For each type of product indicated.
 - a) For paints and coatings, including printed statement of VOC content.
2. Samples for Initial Selection: For each type of topcoat product indicated.
3. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
 - a) Submit Samples on rigid backing, 8 inches square.
 - b) Step coats on Samples to show each coat required for system.
 - c) Label each coat of each Sample.
 - d) Label each Sample for location and application area.
4. Product List: For each product indicated, include the following:
 - a) Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.

210-7.1.4 Quality Assurance.

1. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - a) Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 310-7.3
 - i. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft.
 - ii. Other Items: Architect will designate items or areas required.
2. Apply benchmark samples after permanent lighting and other environmental services have been activated.
3. Final approval of color selections will be based on benchmark samples.

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

210-7.1.5 Delivery, Storage, and Handling.

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

210-7.1.6 Project Conditions.

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

210-7.1.7 Extra Materials.

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

210-7.2 Products.

210-7.2.1 Manufacturers.

- 1. Available Manufacturers: First quality finishes of Frazee, ICI, and Sherwin Williams are indicated. Subject to compliance with requirements and review and approval from architect, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- 2. Additional Manufacturers: Subject to compliance with requirements and review and approval from architect, alternate manufacturers include:
 - a) Dunn-Edwards Corporation
 - b) Vista Paint.
 - c) Or equal

210-7.2.2 Paint, General.

1. Material Compatibility:
 - a) Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - b) For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
2. Chemical Components of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and the following chemical restrictions; these requirements do not apply to primers or finishes that are applied in a fabrication or finishing shop:
 - a) Flat Paints and Coatings: VOC content of not more than 50 g/L.
 - b) Nonflat Paints and Coatings: VOC content of not more than 150 g/L.
 - c) Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
 - d) Restricted Components: Paints and coatings shall not contain any of the following:
 - i. Acrolein.
 - ii. Acrylonitrile.
 - iii. Antimony.
 - iv. Benzene.
 - v. Butyl benzyl phthalate.
 - vi. Cadmium.
 - vii. Di (2-ethylhexyl) phthalate.
 - viii. Di-n-butyl phthalate.
 - ix. Di-n-octyl phthalate.
 - x. 1,2-dichlorobenzene.
 - xi. Diethyl phthalate.
 - xii. Dimethyl phthalate.
 - xiii. Ethylbenzene.
 - xiv. Formaldehyde.
 - xv. Hexavalent chromium.

- xvi. Isophorone.
- xvii. Lead.
- xviii. Mercury.
- xix. Methyl ethyl ketone.
- xx. Methyl isobutyl ketone.
- xxi. Methylene chloride.
- xxii. Naphthalene.
- xxiii. Toluene (methylbenzene).
- xxiv. 1,1,1-trichloroethane.
- xxv. Vinyl chloride.

3. Colors: As selected by Architect from manufacturer's full range.

210-7.2.3 Primers, Sealers.

- 1. Interior Latex Primer/Sealer:
 - a) Frazee 061 Aquaseal
 - b) ICI Prep N Prime 1000 Hi-Hide
 - c) SW ProGreen 200 Primer B28W600
- 2. Wood-Knot Sealer: Sealer recommended in writing by topcoat manufacturer for use in paint systems indicated.

210-7.2.4 Concrete, Plaster And Porous Surfaces Primers

- 1. Frazee Paint; 168 Prime Plus.
- 2. Sherwin-Williams Company; Prep Rite ProBlock B51W8020.
- 3. Vista Paint Corporation; 4000 Uniprime.
- 4. Or equal.

210-7.2.5 Metal Primers.

- 1. Rust-Inhibitive Primer (Water Based): MPI #107:
 - a) Frazee 561 Acrylic Metal Prime
 - b) ICI Devflex 4020
 - c) SW ProCryl Acrylic Metal Primer B66-310
- 2. Waterborne Galvanized-Metal Primer:
 - a) Frazee 561 Acrylic Metal Prime
 - b) ICI Devflex 4020
 - c) SW ProCryl Acrylic Metal Primer B66-310

3. Phosphoric Acid Wash for Galvanized and Non-ferrous Metal:
 - a) Frazee PCI 02150 Metal Conditioner
 - b) ICI Jasco Prep N Prime
 - c) SW GLL Clean n Etch

210-7.2.6 Wood Primers.

1. Interior Latex-Based Wood Primer:
 - a) Frazee 168 Prime Plus
 - b) ICI Gripper 3210
 - c) SW PrepRite Pro Block B51W20

210-7.2.7 Latex Paint.

1. Interior Latex (Flat):
 - a) Frazee 010 Encore Velvet Flat
 - b) ICI Dulux Ultra 1200
 - c) SW A86 Super Paint Int. Flat
2. Interior Latex (Eggshell):
 - a) Frazee 022 LoGlo
 - b) ICI Dulux Ultra 1403
 - c) SW A87 Super Paint Int. Satin
3. Interior Latex (Semigloss) Non-Blocking:
 - a) Frazee 124 Mirroglide SG
 - b) ICI Dulux Ultra 1407
 - c) SW Solo Acrylic Gloss B21WJ8651
4. Institutional Low-Odor/VOC Latex (Flat):
 - a) Frazee 018 Envirokote
 - b) ICI Lifemaster LM9100
 - c) SW Harmony Flat B5 Series
5. Institutional Low-Odor/VOC Latex (Eggshell):
 - a) Frazee 029 Envirokote Eggshell
 - b) ICI Lifemaster LM9300
 - c) SW Harmony Eggshell B9 Series
6. Institutional Low-Odor/VOC Latex (Semigloss):
 - a) Frazee 032 Envirokote Semigloss
 - b) ICI Lifemaster LM9200

- c) SW Harmony Semigloss B10 Series

210-7.2.8 Dry Fog/Fall Coatings.

1. Latex Dry Fog/Fall:
 - a) Frazee 504 Latex Dry Fall
 - b) ICI Aquacrylic Dryfall 1280
 - c) SW Acrylic Dryfall B42W1

210-7.3 Execution.

210-7.3.1 Examination.

1. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
2. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a) Wood: 15 percent.
 - b) Gypsum Board: 12 percent.
3. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
4. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - a) Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

210-7.3.2 Preparation.

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

4. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer, but not less than the following:
 - a) SSPC-SP 11 "Power Tool Cleaning to Bare Metal".
5. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
6. Aluminum Substrates: Remove surface oxidation.
7. Wood Substrates:
 - a) Scrape and clean knots, and apply coat of knot sealer before applying primer.
 - b) Sand surfaces that will be exposed to view, and dust off.
 - c) Prime edges, ends, faces, undersides, and backsides of wood.
 - d) After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
8. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.
9. Plaster Substrates: Do not begin paint application until plaster is fully cured and dry.

210-7.3.3 Application.

1. Apply paints according to manufacturer's written instructions.
 - a) Use applicators and techniques suited for paint and substrate indicated.
 - b) Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - c) Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
2. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
3. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
4. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

5. Painting Mechanical and Electrical Work: Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
 - a) Mechanical Work:
 - i. Uninsulated metal piping.
 - ii. Uninsulated plastic piping.
 - iii. Pipe hangers and supports.
 - iv. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
 - v. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - vi. Mechanical equipment that is indicated to have a factory-primed finish for field painting.
 - b) Electrical Work:
 - i. Switchgear.
 - ii. Panelboards.
 - iii. Electrical equipment that is indicated to have a factory-primed finish for field painting.

210-7.3.4 Field Quality Control.

1. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:
 - a) Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
 - b) Testing agency will perform tests for compliance with product requirements.
 - c) Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

210-7.3.5 Cleaning and Protection.

1. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

2. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
3. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
4. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

210-7.3.6 Interior Painting Schedule.

1. Steel Substrates:
 - a) Water-Based Dry-Fall System:
 - i. Prime Coat: water-borne rust inhibitive metal primer.
 - ii. Topcoat: Latex dry fog/fall
 - b) Institutional Low-Odor/VOC Latex System:
 - i. Prime Coat: Rust-inhibitive primer (water based).
 - ii. Intermediate Coat: Institutional low-odor/VOC interior latex matching topcoat.
 - iii. Topcoat: Institutional low-odor/VOC interior latex (semigloss).
2. Galvanized-Metal Substrates:
 - a) Water-Based Dry-Fall System:
 - i. Prime Coat: Waterborne dry fall.
 - ii. Topcoat: Waterborne dry fall.
 - b) Latex Over Waterborne Primer System:
 - i. Prime Coat: Waterborne galvanized-metal primer.
 - ii. Intermediate Coat: Interior latex matching topcoat.
 - iii. Topcoat: Interior latex (semigloss).
 - c) Institutional Low-Odor/VOC Latex System:
 - i. Prime Coat: Waterborne galvanized-metal primer.
 - ii. Intermediate Coat: Institutional low-odor/VOC interior latex matching topcoat.
 - iii. Topcoat: Institutional low-odor/VOC interior latex (semigloss).
3. Dressed Lumber Substrates: Including architectural woodwork and doors.
 - a) Latex System:
 - i. Prime Coat: Interior latex-based wood primer.
 - ii. Intermediate Coat: Interior latex matching topcoat.

- iii. Topcoat: Interior latex (semigloss).
 - b) Institutional Low-Odor/VOC Latex System:
 - i. Prime Coat: Interior latex-based wood primer.
 - ii. Intermediate Coat: Institutional low-odor/VOC interior latex matching topcoat.
 - iii. Topcoat: Institutional low-odor/VOC interior latex (semigloss) non-blocking.
- 4. Wood Panel Substrates: Including painted plywood.
 - a) Latex System:
 - i. Prime Coat: Interior latex-based wood primer.
 - ii. Intermediate Coat: Interior latex matching topcoat.
 - iii. Topcoat: Interior latex flat.
 - b) Institutional Low-Odor/VOC Latex System:
 - i. Prime Coat: Interior latex-based wood primer.
 - ii. Intermediate Coat: Institutional low-odor/VOC interior latex matching topcoat.
 - iii. Topcoat: Institutional low-odor/VOC interior latex (flat).
- 5. Gypsum Board Substrates:
 - a) Latex System:
 - i. Prime Coat: Interior latex primer/sealer
 - ii. Intermediate Coat: Interior latex matching topcoat.
 - iii. Topcoat: Interior latex (eggshell) or (semigloss) as indicated.
 - b) Institutional Low-Odor/VOC Latex System:
 - i. Prime Coat: Interior latex primer/sealer.
 - ii. Intermediate Coat: Institutional low-odor/VOC interior latex matching topcoat.
 - iii. Topcoat: Institutional low-odor/VOC interior latex (eggshell) or (semigloss) as indicated.

ADD: SECTION 219 – POURED-IN-PLACE PLAYGROUND SURFACING SYSTEM

219-1 POURED-IN-PLACE PLAYGROUND SURFACING SYSTEM.

219-1.1 General.

219-1.1.1 Summary.

- 1. Section Includes: Poured-in-Place Playground Surfacing System with a 10-year warranty.

2. Related Sections: Materials and Methods, Excavation, Asphalt Paving, Concrete Paving, Sub-Drainage, Storm Drainage, Fencing, Playground Equipment and Structures.

219-1.1.2 References.

1. American Society for Testing and Materials (ASTM):
 - a) ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
 - b) ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
 - c) ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.
 - d) ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.
 - e) ASTM E303 Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.
 - f) ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.
 - g) ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

219-1.1.3 System Description.

1. Performance Requirements: Provide a 2-layer rubber-urethane playground surfacing system which has been designed, manufactured and installed to meet the following criteria:
 - a) Shock Attenuation (ASTM F1292):
 - i. Gmax: Less than 200.
 - ii. Head Injury Criteria: Less than 1000.
 - b) Flammability (ASTM D2859): Pass.
 - c) Tensile Strength (ASTM D412): 60 psi (413 kPa).
 - d) Tear Resistance (ASTM D624): 140%.
 - e) Water Permeability: 0.4 gal/yd²/second.
 - f) Accessibility: Comply with requirements of ASTM F1951.

219-1.1.4 Submittals.

1. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
2. Product Data: Submit manufacturer's product data and installation instructions.

3. Verification Samples: Submit manufacturer's standard verification samples of 9" x 9" (229 x 229 mm) minimum.
4. Quality Assurance/Control Submittals: Submit the following:
 - a) Certificate of qualifications of the playground surfacing installer.
5. Closeout Submittals: Submit the following:
 - b) Warranty documents specified herein.

219-1.1.5 Quality Assurance.

1. Qualifications: Utilize an installer approved and trained by the manufacturer of the playground surfacing system, having experience with other projects of the scope and scale of the work described in this section.
2. Certifications: Certification by manufacturer that installer is an approved applicator of the playground surfacing system.
3. International Play Equipment Manufacturers Association (IPEMA) certified.
4. Contractor must be able to provide surfacing system that meets a 13' fall height per ASTM F1292. Proof of compliance must be provided at time of bid.

219-1.1.6 Delivery, Storage and Handling.

1. General: Comply with Division 1 Product Requirement Section.
2. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
3. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

219-1.1.7 Project Conditions.

1. Environmental Requirements: Install surfacing system when minimum ambient temperature is 40 degrees F (1 degree C) and maximum ambient temperature is 90 degrees F (32 degrees C). Do not install in steady or heavy rain.

219-1.1.8 Warranty.

1. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
2. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents.
3. Proper drainage is critical to the longevity of the PlayBound Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

4. Warranty Period: 10 years from date of completion of work.
5. Supplemental Inspections: Surfacing supplier shall provide two (2) Impact Attenuation Tests (not including the initial audit which is the responsibility of the contractor) during the 10-year warranty period. The timing of the testing will be at the discretion of the Client. Surfacing supplier shall also provide visual inspection of the surface every three (3) years. Visual inspections shall be followed by photos and a brief narrative of what was observed. Any and all repairs needed shall be completed to ensure that the surface remains within ASTM code throughout the warranty period.

219-1.2 Products.

219-1.2.1 Poured-In-Place Playground Surfacing System.

1. Manufacturer: Surface America, Inc., (800) 999-0555, or approved equal.
2. Products/Systems. Poured-in-place playground surfacing system, including the following:
 - a) PlayBound Poured-In-Place Primer:
 - i. Material: Urethane.
 - b) PlayBound Poured-in-Place Basemat:
 - i. Material: Blend of 100% recycled SBR (styrene butadiene rubber) and urethane.
 - ii. Thickness: [1 1/4" (31.75 mm) for 4' critical fall height] [2" (51 mm) for 5' critical fall height] [2 1/2" (64 mm) for 6' and 7' critical fall heights] [3" (76 mm) for 8' critical fall height] [3 1/2" (89 mm) for 9' critical fall height] [4" (102 mm) for 10' critical fall height] [5" (127 mm) for 12' critical fall height] [6" (152 mm) for 13' critical fall height].
 - iii. Formulation Components: Blend of strand and granular material.
 - c) PlayBound Poured-In-Place Top Surface:
 - i. Material: Blend of Virgin TPV Granule and aromatic or aliphatic urethane binder.
 - ii. Thickness: Nominal 1/2" (12.7 mm), minimum 3/8" (9.5 mm), maximum 5/8" (15.9 mm).
 - iii. Color: per Drawings.
 - iv. Dry Static Coefficient of Friction (ASTM D2047): 1.0.
 - v. Wet Static Coefficient of Friction (ASTM D2047): 0.9.
 - vi. Dry Skid Resistance (ASTM E303): 89.
 - vii. Wet Skid Resistance (ASTM E303): 57.

219-1.2.2 Mixes.

1. Required mix proportions by weight:
 - a) Basemat: 16+% urethane (as ratio: 14% urethane divided by 86% rubber). 14% urethane, 86% rubber (based on entire rubber & urethane mix).
 - b) Top Surface: 22% urethane (ratio: 18% urethane divided by 82% rubber). 18% urethane, 82% rubber (based on entire rubber & urethane mix).

219-1.3 Execution.

219-1.3.1 Manufacturer's Instructions.

1. Comply with the instructions and recommendations of the playground surfacing manufacturer.

219-1.3.2 Examination.

1. Substrate preparation must be in accordance with surfacing manufacturer's specification. New asphalt must be fully cured – up to 30 days. New concrete must be fully cured – up to 7 days.
2. Proper drainage is critical to the longevity of the PlayBound Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.

219-1.3.3 Preparation.

1. Surface Preparation: Using a brush or short nap roller, apply primer to the substrate perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft²/gal (7.5 m²/L).

219-1.3.4 Installation.

1. Do not proceed with playground surfacing installation until all applicable site work, including substrate preparation, fencing, playground equipment installation and other relevant work, has been completed.
2. Basemat Installation:
 - a) Using screeds and hand trowels, install the basemat at a consistent density of 29 pounds, 1 ounce per cubic foot (466 kg/m³) to the specified thickness.
 - b) Allow basemat to cure for sufficient time so that indentations are not left in the basemat from applicator foot traffic or equipment.
 - c) Do not allow foot traffic or use of the basemat surface until it is sufficiently cured.

3. Primer Application: Using a brush or short nap roller, apply primer to the basemat perimeter and any adjacent vertical barriers such as playground equipment support legs, curbs or slabs that will contact the surfacing system at the rate of 300 ft²/gal (7.5 m²/L).
4. Top Surface Installation:
 - a) Using a hand trowel, install top surface at a consistent density of 58 pounds, 9 ounces per cubic foot (938 kg/m³) to a nominal thickness of 1/2" (12.7 mm).
 - b) Allow top surface to cure for a minimum of 48 hours.
 - c) At the end of the minimum curing period, verify that the top surface is sufficiently dry and firm to allow foot traffic and use without damage to the surface.
 - d) Do not allow foot traffic or use of the surface until it is sufficiently cured.

219-1.3.5 Protection.

1. Protect the installed playground surface from damage resulting from subsequent construction activity on the site.

219-2 HALF DOME CLIMBING STRUCTURES.

219-1.2.1 Supplier.

1. Goric Marketing Group USA, Inc. (877) 467-4287, or approved equal.

219-1.2.2 Materials.

1. Rubber Granulate: Granulate recycled rubber.
2. Binding Agent: MDI polyurethane.
3. Topping: Colored EPDM rubber granulate.

219-1.2.3 Characteristics.

1. Color: per Drawings.
2. Surface: Smooth with open pores.

219-1.2.4 Dimensions/Tolerances.

1. Diameter: Approx. 345 mm, 500 mm and 695 mm.
2. Weight: Approx. 10,2 kg, 30,0 kg and 83,0 kg.
3. Tolerances: +/- 0.8%
4. Dimension of Steel Anchors: 42,8 mm diameter; approx. 750 mm length

219-1.2.5 Product Testing.

1. General Information: Production facility inspection.

2. Fire Resistance: E (DIN EN 13501-1, 2002).
3. Cold Fracture Resistance: 24 h / -40° C, no fracture.
4. Cold Crack Resistance: 5 h / -30° C, no cracks.

219-1.2.6 Installation.

1. Mounting: Provide mounting hardware and installation instructions.

SECTION 300 – EARTHWORK

300-1 CLEARING AND GRUBBING.

300-1.1 General. To the “Whitebook “ADD the following:

10. Prior to submittal of a Bid for this Work, the Contractor shall inspect the project site to verify the magnitude and cost of all Clearing and Grubbing required to accomplish the Work. Clearing and Grubbing shall also include saw cutting, demolition, removal and disposal of all existing improvements called out on the Plans to be removed and/or disposed of, including, but not limited to, excess soil, pavement, concrete pavers, concrete ribbon gutter, concrete mow curb, curb and base course, sidewalk to nearest joint, curb and gutter, concrete curb stop, signs and sign posts, vegetation and all other existing improvements that are shown on the plans for removal or are in conflict with the installation of work shown on the plans, directed by the Resident Engineer to be removed, or otherwise required to perform the work which are not designated as separate bid items or which are not included in other bid items.

300-1.4 Payment. To the “Whitebook “ADD the following:

3. Payment for clearing and grubbing shall be made at the contract lump sum price for “*Clearing and Grubbing*” and shall include full compensation for all work within the Project Site. No other payments shall be made therefore.
4. Payment for preservation of property shall be included in the contract lump sum price for “*Clearing and Grubbing*”. No other payments shall be made therefore.
5. Payment for salvaging and/or relocating/reinstalling existing improvements shall be included in the contract lump sum price for “*Salvaging and/or Re-Installing/Relocating Existing Improvements*”. No other payments will be made therefore.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-15.1 General. To the “Whitebook “ item 1, ADD the following:

- q) Install storm drain cleanout per SDSD SDSW-101.

ADD:
306-19 MODULAR WETLAND SYSTEM (MWS).

306-19.1 General.

1. Excavation and backfill for the BioClean Modular Wetland System or approved equal shall conform to Standard Specification Section 300-3.
2. Contractor shall install modular wetland system (MWS) or approved equal (i.e., Linear curb inlet underground vault) with BioClean DVERT or approved equal as shown on the Plans. The MWS shall be installed by the Contractor as shown on the Plans. Modular Wetland System is available through:

Modular Wetland System, Inc.
P.O. Box 869
Oceanside, CA 92049
Phone: (760) 433-7640
www.modularwetlands.com

306-19.2 Payment.

1. Payment for Modular Wetland System (MWS-L-4-4-4'-0"-V and DVERT DVT-10-8 or approved equals shall be made at the Contract Unit Price for "*Modular Wetland System*" and shall include full compensation for furnishing all labor, materials, equipment, tools, and incidentals and for doing all the work (including transportation, delivery, excavation, shoring, dewatering, compaction, structure backfill, grading, cleanouts, pipes, pipe connections, etc. and all appurtenant items necessary to construct the MWS, complete-in-place, and no additional compensation shall be allowed therefor.

SECTION 401 - REMOVAL

ADD:
401-8 SELECTIVE STRUCTURE DEMOLITION.

401-8.1 General.

401-8.1.1 Related Documents.

1. References: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Part 1 Specification Sections, apply to this Section.

401-8.1.2 Summary.

1. Section Includes:
 - a) Demolition and removal of selected portions of building or structure.
 - b) Demolition and removal of selected site elements.
 - c) Salvage of existing items to be reused or recycled.

401-8.1.3 Definitions.

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

401-8.1.4 Material Ownership.

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

401-8.1.5 Predemolition Meetings

1. Predemolition Conference: Conduct conference at Project site.
 - a) Inspect and discuss condition of construction to be selectively demolished.
 - b) Review structural load limitations of existing structure.
 - c) Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - d) Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - e) Review areas where existing construction is to remain and requires protection.

401-8.1.6 Informational Submittals.

1. Qualification Data: For refrigerant recovery technician.
2. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for

environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.

3. Schedule of Selective Demolition Activities: Indicate the following:
 - a) Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - b) Interruption of utility services. Indicate how long utility services will be interrupted.
 - c) Coordination for shutoff, capping, and continuation of utility services.
 - d) Use of stairs.
 - e) Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
4. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
5. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
6. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

401-8.1.7 Closeout Submittals.

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

401-8.1.8 Quality Assurance.

1. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

401-8.1.9 Field Conditions.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
2. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
3. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

- a) If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous material will be removed by Owner under a separate contract.
- 4. Storage or sale of removed items or materials on-site is not permitted.
- 5. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - a) Maintain fire-protection facilities in service during selective demolition operations.

401-8.1.10 Warranty.

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

401-8.2 Products.

401-8.2.1 Performance Requirements.

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

401-8.3 Execution.

401-8.3.1 Examination.

- 1. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- 2. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.
- 3. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- 4. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

5. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 - a) Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
6. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
 - a) Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.

401-8.3.2 Utility Services and Mechanical/Electrical Systems.

4. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
5. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - a) Arrange to shut off indicated utilities with utility companies.
 - b) If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - c). Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - i. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - ii. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - iii. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - iv. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - v. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

401-8.3.3 Preparation.

1. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
2. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - a) Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - b) Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - c) Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - d) Cover and protect furniture, furnishings, and equipment that have not been removed.
3. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - a) Strengthen or add new supports when required during progress of selective demolition.

401-8.3.4 Selective Demolition, General.

1. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - a) Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - b) Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - c) Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - d) Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify

condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.

- e) Maintain adequate ventilation when using cutting torches.
 - f) Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - g) Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - h) Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - i) Dispose of demolished items and materials promptly.
2. Removed and Salvaged Items:
- a) Clean salvaged items.
 - b) Pack or crate items after cleaning. Identify contents of containers.
 - c) Store items in a secure area until delivery to Owner.
3. Removed and Reinstalled Items:
- a) Clean and repair items to functional condition adequate for intended reuse.
 - b) Pack or crate items after cleaning and repairing. Identify contents of containers.
 - c) Protect items from damage during transport and storage.
 - d) Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
4. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

401-8.3.5 Selective Demolition Procedures for Specific Materials.

1. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being

demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

2. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
3. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
4. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
5. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.
6. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight.
 - a) Remove existing roof membrane, flashings, copings and roof accessories.
 - b) Remove existing roofing system down to substrate.

401-8.3.6 Disposal of Demolished Materials.

1. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - a) Do not allow demolished materials to accumulate on-site.
 - b) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - c) Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
2. Burning: Do not burn demolished materials.
3. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

401-8.3.6 Cleaning.

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

SECTION 402 – UTILITIES

402-2 PROTECTION. To the “WHITEBOOK”, item 2, ADD the following:

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

SECTION 800 – MATERIALS

800-1 LANDSCAPING MATERIALS.

800-1.1 Topsoil.

800-1.1.1 General. To the “GREENBOOK”, DELETE in its entirety and SUBSTITUTE with the following:

Topsoil shall be designated as Class A (imported) or Class C (unclassified). The Engineer will determine the suitability of topsoil prior to use. The Engineer may make such inspections and perform such tests as deemed necessary to determine that the material meets the requirements. Topsoil shall be transported from the source to its final position unless stockpiling is specified in the Special Provisions.

1. Typically, the onsite soils (Class C) are suitable and preferred for reuse as topsoil if free from excessive vegetation, trash and debris, and other deleterious matter. The soil laboratory test will determine suitability of onsite topsoil material.
2. If import of topsoil is determined to be necessary, Class A topsoil shall be provided and tested, as specified. Topsoil source and quality shall be approved by the Project Landscape Architect prior to delivery. Topsoil must be weed free upon delivery, or treated as specified for weed eradication. If topsoil is to be stored on-site for later installation, it shall not be stored for more than one week.

800-1.1.3 Class “B” Topsoil. To the “GREENBOOK”, DELETE in its entirety:

800-1.2 Soil Fertilizing and Conditioning Materials.

800-1.2.1 General. To the “GREENBOOK”, ADD the following:

1. Submittals: Product data and samples shall be made in one package. Submit manufacturer’s product data on amendments, fertilizers and all other materials as described in this section. Include brand names, estimate quantities and supplier. For bark mulches, submit three (3) ¼ lb. bagged samples of each specified material. Label bag with name, source, size and color range.

800-1.2.2 Manure. To the "GREENBOOK", DELETE in its entirety:

800-1.2.4 Organic Soil Amendment. To the "GREENBOOK", DELETE in its entirety and SUBSTITUTE with the following:

1. Soil Amendment: a blend of organic fractions with several degrees of breakdown rate, a long-lasting form of iron, trace elements, pH of 5.5 to 7.5, maximum salinity of 2.50 ECe, organic matter (dry weight basis) more than 90%, non-ionic wetting agent and total nitrogen content of 0.4 - 0.8%, such as "Numex Lif" by John Deere Landscapers, (619) 562-8777, or "A-1 Nutri-Gro" by A-1 Soils, (858) 715-5600, (or approved equal).
2. Gypsum: a commercially processed and packaged gypsum (CaSo₄, H₂O) Calcium Sulfate Product - 94.3%. Ninety percent shall pass a 50 mesh screen.
3. Iron Sulfate: a non-staining iron with micronutrients, pelletized, slow release, environmentally safe; 40% Iron, 1% Manganese, 1% Zinc, 1% Magnesium, 6% Sulfur; 2% Humic Acids. Such as "Premium Green Iron 40% Fe" as manufactured by Gro-Power®, Inc. (800) 473-1307 or approved equal.
4. Sulfur: a commercially processed and packaged product in elemental form (S) Sulfur - 90.0%, capable of oxidizing over time and providing nutrient sulfur. Pelletized. Such as "Tiger 90 CR". As supplied by Butler's Mill (800) 233-6933.
5. Mycorrhizal Inoculum / Soil Conditioner: Inoculum shall be both Endo and Ecto (granular), with consisting of propagules (spores, fragments of fungal mycelium, and pieces of mycorrhizal roots capable of colonizing host plant roots) of the vesicular arbuscular mycorrhizal species *Glomus intraradices*, *Glomus aggregatum*, *Glomus mosseae*, combined with other species and/or additional genera including *Sclerocyctis*, *Gigaspora*, *Scutellospora*, *Entrophospora*, and *Acaulospora*. Ectomycorrhiza include *Pisolithus* and 4 species of *Rhizopogon*. Soil Conditioner portion shall consist of organic materials consisting of higher plant form life, composted beyond the fibrous stage, to humus. Also shall have humic acids and beneficial soil bacteria strains. It shall NOT contain poultry, animal or human waste (i.e., sewage sludge), pathogenic viruses, fly larvae, insecticides, herbicides, fungicide or poisonous chemicals that would inhibit plant growth. Shall be "GroLife" (800) 473-1307 - no known equal.

Ingredients: Percentage (minimum):

Mycorrhizal Inoculum 6,500/5,500 progagules per lb.

Humus 65%

Humic Acids 25%

800-1.2.5 Mulch. To the "WHITEBOOK", sections a) through m) DELETE in their entirety and SUBSTITUTE with the following:

- a) **Type 1 Mulch** (Organic Mulch): "Gorilla Hair"; redwood bark mulch, fibrous, stringy, dark red product that is 100% derived from *Sempervirens* species of the Sequoia Redwood tree.

- i. Size Range: Particle size shall be 95% passing a range from 1-3", with some fibers being longer than 3".
 - ii. Acceptable Manufacturer: John Deere Landscapes (800) 233-6933, or equal.
- b) **Type 2 Mulch** (Organic Mulch): "Forest Mulch" or "Forest Fines"; organic forest products with leaf litter, light in color, free of trash and other deleterious materials and animal waste, with pathogens and weeds removed by temperature treatment.
 - i. Size Range:
 - A. "Forest Mulch": 1-5"
 - B. "Forest Fines": ½ -2"
 - ii. Acceptable Manufacturer: Agri Service Inc., (800) 262-4167, or equal.
- c) **Type 3 Mulch** (Organic Mulch): "Perennial Mulch" or "Orchard Mulch"; composted mulch product, dark in color, high in organic content and comprised of yard trimming, free of trash and other deleterious materials and animal waste, with pathogens and weeds removed by temperature treatment.
 - i. Size Range:
 - A. "Perennial Mulch": ¾" screened
 - B. "Orchard Mulch": 2" minus
 - ii. Acceptable Manufacturer: Agri Service Inc., (800) 262-4167, or equal.
- d) **Type 4 Mulch** (Organic Mulch): "Landscape Mulch" or "Trail Mulch"; comprised of tree wood and clean construction lumber waste products, light in color, free of painted or stained wood, trash and other deleterious materials and animal waste.
 - i. Size Range:
 - A. "Landscape Mulch": 1-3"
 - B. "Trail Mulch": 1-2"
 - ii. Acceptable Manufacturer: Agri Service Inc., (800) 262-4167, or equal.
- e) **Type 5 Mulch** (Organic Mulch): "Pacific Mulch"; appearance grade, composed organic forest products, free of trash and other deleterious materials, with pathogens and weeds removed by temperature treatment
 - i. Size Range: 1-3"
 - ii. Acceptable Manufacturer: John Deere Landscapes (800) 233-6933, or equal.
- f) **Type 6 Mulch** (Organic Mulch): "Bark Bits"; Fir and Pine Bark, free of trash and other deleterious materials.
 - i. Size Range: 1/4"-3/8"
 - ii. Acceptable Manufacturer: John Deere Landscapes, (800) 233-6933, or equal.

800-1.2.5 Mulch. To the "WHITEBOOK", item 3, subsection "i", ADD the following:

Type 9 Mulch shall be 2 or 4 inches maximum in size.

800-1.2.7 Herbicides and Pesticides. To the "WHITEBOOK", ADD the following:

1. Herbicides and pesticides shall be used in their appropriate applications with strict adherence to manufacturers' specifications and instructions.
2. Post-emergent herbicide for all areas shall be Round Up, Diquat, Montar, or approved equivalent.
3. Pre-emergent herbicide for shrub and groundcover areas (planted from flats) shall be Treflan, Surflan, Eptan, or approved equivalent.

800-1.4 Plants.

800-1.4.1 General. To the "WHITEBOOK", ADD the following:

8. Plants shall have grown in their containers for at least six months, but not over two years.
9. Quality and Size: Plants shall be in accordance with the California State Department of Agriculture Regulations for Nursery Inspections of Rules and Grading. Nursery tags must be submitted to the Project Landscape Architect. Sizes shall conform to the dimensions indicated on the planting plan. All plants shall be reviewed and approved for acceptable size and quality by the Project Landscape Architect prior to planting. All plants shall have a growth habit normal to the species and shall be symmetrical, typical for variety and species, sound, healthy, vigorous and free from insect pests, insect eggs, plant diseases, sun scalds, fresh bark abrasions, excessive abrasions, or other objectionable disfigurements. All plants shall have normal well-developed branch systems, and vigorous and fibrous root systems which are neither root-nor pot-bound and are free of kinked or girdling roots. Immediately upon award of contract for work in this section, locate and purchase or hold for purchase all trees required. Color photos of all palm trees shall be submitted to Project Landscape Architect for approval for a minimum of 15 days prior to delivery of the plants to the site. The Project Landscape Architect reserves the right to reject any plant species upon conducting a physical inspection after delivery to the site.
10. Quantities: Quantities of all plant materials shall be furnished as needed to complete work as shown on the Drawings. Inspection of plant materials required by City, County or State authorities shall be the responsibility of the Contractor, and where necessary, permits or certificates shall have been secured prior to delivery of plans to site. The Project Landscape Architect is the sole judge as to acceptability of each plant. Vigorous, healthy, well-proportioned plants are the intent of this specification. Plants which are even moderately "overgrown," or are showing signs of decline or lack of vigor are subject to rejection. The size of the plants will correspond with that normally expected for species and variety of commercially available nursery stock, or as specified in the special conditions or drawings. Plants larger in size than specified may be used with the approval of the Project Landscape Architect, but the use of larger plants will make no change in Contract Price. If the use

of larger plants is approved, the ball of earth and spread of roots for each plant shall be increased proportionately.

11. Rejection or Substitution: The Project Landscape Architect reserves the right to reject any plant material found to be defective or not in conformance with plans and specifications. Plants shall be subject to inspection and approval or rejection at the project site at any time before or during progress of work, for size, variety, condition, latent defects, and injuries. All plants not conforming to the requirements herein specified shall be considered defective, and such plants, whether in place or not, shall be marked as rejected and immediately removed from the site and replaced with new plants by the Contractor at his expense. Rejected plant material shall be replaced within one week of written notice, unless otherwise approved by the Project Landscape Architect. Substitutions will not be permitted except if proof is submitted that any plant specified is not obtainable, then a proposal will be considered for use of the nearest equivalent size or variety and cost. All substitutions are subject to Project Landscape Architect's written approval.
12. Right To Changes: The Project Landscape Architect reserves the right to change the species, variety, and/or sizes of plant material to be furnished, provided that the cost of such plant changes do not exceed the cost of plants in the original bid, and with the provision that the Contractor shall be notified, in writing, at least thirty (10) days before the planting operation has commenced.
13. Submittals: For each plant specified, include photo quality color photographs at 8 ½ x11 size format of each required species and size of plant material as it will be furnished to the Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Identify each photograph with the full scientific name of the plant, container size, height and spread, and name of the growing nursery. Review of plant photographs does not indicate acceptance of the plant material as delivered to the Project Site.
14. Reference Standards: Reference Standards apply to this Sections and shall be the latest edition of the following:
 - a) "A Checklist of Woody Ornamental Plants of California", University of California, College of Agriculture.
 - b) ANSI Z60.1 American Standards for Nursery Stock.
 - c) Hortus Third.
 - d) Sunset Western Garden Book, Sunset Publishing Corporation.
 - e) Guideline Specifications for Nursery Tree Quality by Urban Tree Foundation.

800-1.6 Aeration Tubes. To the "GREENBOOK", ADD the following:

1. Tubes:
 - a) 4" dia., schedule 40 PVC perforated pipe cut to lengths as shown on the Drawings.

- b) Acceptable Manufacturer: Pacific Plastics, Inc. (714) 990-9050, or equal.
2. Grates:
- a) 4"dia., round, black, flat plastic slotted drain grates
 - b) Acceptable Manufacturer: National Diversified Sales (NDS), or equal.
3. Filter fabric "Sock":
- a) Spunbond, Typar 3341, Geoscape Landscape Fabric - 2.5 oz., Commercial Grade
 - b) Acceptable Manufacturer: ADS (800) 821-6710, or equal.

SECTION 801 – INSTALLATION

801-1 GENERAL. To the "WHITEBOOK", ADD the following:

- 5. Contractor is to obtain Resident Engineer's acceptance of tree locations in the field prior to installation of irrigation equipment. Tree locations on the plan are approximate and shall be adjusted as directed by the Resident Engineer. Tree locations take precedence over irrigation equipment conflicting with accepted tree locations.
- 6. In paved areas, all tree and palm planting holes are to be excavated and amended per the specifications prior to the pouring of the concrete paving.
- 7. Examine areas to be planted before start of work, locate utilities, improvements, and easements, verify dimensions and areas shown on the Drawings with actual conditions, identify and tag existing plant material to remain. Document conditions which are in direct conflict with the Drawings and notify the Owner's Representative. Do not start work until conditions that would adversely affect performance, installation, or quality of the work have been corrected. Start of work of this Section constitutes acceptance of the conditions.
- 8. Contractor shall install a temporary water supply from an approved source to irrigate the existing trees during construction, as outlined in Subsection 308-4.9.5 of the Standard Specifications.
- 9. Site observation visits herein shall be made by the Resident Engineer. The contractor shall request site observation three (3) working days in advance of the time of observation is required. The Landscape Contractor or his authorized representative shall be on the site at the time of each site observation by the Resident Engineer. Site observations shall be required for the following parts of work:
 - a) Pre-Construction Meeting to review proposed construction.
 - b) Protection of existing plant materials 48 hours
 - c) Rough grade and soil tests 48 hours

- d) Plant material 48 hours
- e) Soil preparation and finish grade 48 hours
- f) Plant layout and installation 48 hours
- g) Substantial Completion Punch List 7 days
- h) Punch List Completion 7 days
(Authorize start of Maintenance Period)
- i) Maintenance Completion 7 days
- j) Hardscape from layout to verify location of irrigation sleeves.
- k) Water pressure test of mainlines prior to backfilling trenches.
- l) Water pressure test of laterals prior to backfilling trenches.
- m) Irrigation coverage check.
- n) Final walk-through at the completion of the ninety (90) day maintenance period.

801-1.1 Weeding.

1. Weed eradication for entire project site. After irrigation installation, but before planting installation, the Contractor shall irrigate the entire project site three (3) to four (4) times over seven (7) to ten (10) days to germinate existing weed seeds. Allow weed seeds to grow until they reach a maximum height of two to three inches (2"-3"). A post emergent herbicide shall then be applied per Manufacturers specifications and instructions. Avoid contact of herbicide with the existing plants to remain.

801-2 EARTHWORK AND TOPSOIL PLACEMENT.

801-2.1 General. To the "GREENBOOK", DELETE "in its entirety and substitute with the following:

- a) Earthwork and topsoil placement shall include the preparation for and the spreading densification, cultivation, and raking of topsoil, including fertilization and conditioning. Preliminary rough grading and related work to prepare areas for landscaping work to within 0.1 foot (30mm) of finish grade or to subgrade for Class A, shall conform to 300-2, 300-4, and 301-1.

801-2.2 Topsoil Preparation and Conditioning.

801-2.2.1 General. To the "WHITEBOOK", ADD the following:

7. Soil Tests:
 - a) After asphalt and structure demolition and removal are completed and once rough
 - b) At the conclusion of rough grading, collect 4 soil samples from areas identified by the Resident Engineer, and submit the samples to an agricultural soils laboratory for testing. Submit copy of specified amendments with soil samples for testing lab reference. Submit the test results to the Resident Engineer for review. No amendments shall

be applied prior to receipt of test results. The Resident Engineer shall recommend changes to the amendments and/or procedure listed herein, after review of the test results. Costs for testing shall be included in the base bid. Cost change for soil preparation work shall be in accordance with the provisions of the General Conditions.

- c) The cost of the soil analysis and testing shall be included in the bid documents and the Contractor shall not be due additional compensation.
- d) Conduct soil tests prior to commencing work on this section.

8. Percolation Tests:

- a) Locate and prepare the percolation test pits where indicated on the Drawings or as indicated by Owner' representative, and as describe herein. Percolation tests shall take place prior to any tree planting.
- b) Excavate the pits as describe under the plant installation section, remove all loose material, and fill the pits with six inches (6") of water. After 12 hours refill with the same amount of water. Six hours after the second filling, inspect the pits with the Resident Engineer and document locations where water remains in the pit.
- c) If percolation problems occur, provide means and methods for correcting said problems. Planting operations at the locations identified shall be suspended as necessary or as directed by the Resident Engineer. Payment for corrective work shall be in accordance with the provisions of the General Conditions. Proceeding with the work without written approval does not entitle the Contractor to additional compensation for corrective work.
- d) Conduct percolation tests prior to commencing work on this section.

801-2.2.2 Fertilizing and Conditioning Procedures. To the "WHITEBOOK", item 2, ADD the following:

- a. Spread amendments over all planting areas indicated on the Drawings, and mechanically till and blend to a depth of six (6) inches. Prepare areas within the dripline of existing trees by hand, do not use mechanical tillers. Remove foreign material, construction debris, and rocks larger than 2" in diameter. Rake smooth, lightly water, and compact to the finish grades shown on the Drawings.

To the "WHITEBOOK", section 4, DELETE in its entirety and SUBSTITUTE with the following:

- 4. After spreading, cultivate the following soil amendments into the upper 15 inches (381 mm) of soil by suitable equipment operated in at least two directions approximately at right angles. In small planters the same results are to be achieved using hand tilling methods.

801-2.3

Finish Grading. To the "WHITEBOOK", ADD the following:

12. Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted horticultural practice, as approved by the Resident Engineer. The determination of adequate soil moisture for planting shall be the sole judgment of the Resident Engineer and his decision shall be final. The Contractor shall obtain a soil moisture level found to be sufficient for planting. All planting pits shall be filled with water and allowed to drain before starting planting operations. No more plants shall be distributed in the planting area on any day that can be planted and watered as herein specified immediately after removal from containers.
13. Excavation shall include the stripping and staking of all acceptable soil encountered within the areas to be excavated for plant pits and planting beds. Protect all areas that are to be trucked over and upon which soils to be temporarily stacked pending its re-use for the filling of holes, pits and beds.
14. Excess soil generated from the planting holes shall be removed from the site, or distributed thereon with, and only with, approval of the Resident Engineer.
15. Refer to planting details for trees that are to have root barriers.
16. All plant material and their locations shall be approved by the Resident Engineer before cutting into containers and excavating soil for planting.

801-4.3

Layout and Plant Locations. To the "WHITEBOOK", ADD the following:

4. The layout of locations for plants and outlines of ground cover areas to be planted shall be approved on the site by the Resident Engineer. All container plants shall be sited by the Contractor in their final locations, as approved by the Resident Engineer, prior to their planting. All such locations shall be checked for interference with existing underground piping, prior to excavation of holes. If underground construction or utility lines are encountered in the excavation of planting areas, other locations for the planting may be selected by the Resident Engineer. Damage to existing utilities shall be the responsibility of the Contractor.
5. Tree Layout: Flag or stake the tree locations as shown on the Drawings, and review with the Resident Engineer, the locations which conflict with new or existing utilities, foundations, paving, drainage flow lines and structures. Do not install trees in areas of conflict without review and approval from the Resident Engineer.
6. Shrub and Vine Layout: Place container plants at the locations shown on the Drawings. Proceed with the installation after review and approval by the Resident Engineer.

801-4.5

Tree and Shrub Planting. To the "WHITEBOOK", ADD the following:

Plant Pits: Excavate planting pits to the minimum size and depth indicated on the Drawings. The pits shall have vertical sides and level or sloping bottoms with roughened surfaces. Pits may be larger to avoid damage or injury during installation,

or due to other constraints. Notify the Resident Engineer of conditions where hardpan, adobe clay or inadequate subgrade compaction are encountered. Planting operations at the locations identified shall be suspended pending corrective action provided by Resident Engineer.

To the "WHITEBOOK", Section 4, DELETE in its entirety and SUBSTITUTE with the following:

4. Backfill and Compaction:

- a) Place backfill in maximum 6 inch layers. Puddle and tamp to 85% relative dry density prior to placement of each succeeding layer. Place plant tablets as indicated on the Drawings and in the quantities noted below, do not place plant tablets in direct contact with the rootball. At completion of the planting operation, thoroughly water-in each plant to the full depth of the plant pit.
- b) Backfill mixture for all plants except palms shall be thoroughly blended, consisting of the following:

<u>Amendment</u>	<u>Amount</u>
Soil Conditioner*	1 part
Existing Soil	3 parts
Iron Sulfate	2 lb/cy of mix
Soil Sulfur	1 lb/cy of mix
Gypsum	25 lb/cy of mix
Pre-plant Fertilizer (5-3-1)*	18 lb/cy of mix
Mycorrhizal Inoculum / Soil Conditioner**	10 lb/cy of mix

* Incorporate these items only in the top 18" layer.

** Incorporate these items only in the top 6" layer.

- c) Place planting tablets in the planting pits at the following rates:

<u>Plant Size</u>	<u>Qty.</u>	<u>Tablet Size</u>
Liner and flat size plant		15 gram
1 gallon container	1	21 gram
5 gallon container	2	21 gram
15 gallon container	3	21 gram
Box specimen	2	21 gram for each 12" of box size

ADD:

801-4.6.4 Root Barriers.

1. Materials shall be delivered and stored in accordance with Section 4 of the Standard Specifications. Avoid prolonged exposure to direct sunlight and high temperatures. Material exposed to direct sunlight for more than one week shall be rejected and replaced. Install as soon as possible after opening container.
2. Material shall be handled in accordance with manufacturer's instructions.
3. Install root barrier against edge of all paving adjacent to planting areas within 10' of tree trunks measured perpendicular to curb. A minimum 4" wide trench shall be excavated to the depth of root barrier. Insert barrier to bottom of trench and stretch it straight against the side of trench adjacent to concrete. Top edge shall be 3" below grade of concrete structures. To permit backfilling, tape, wire or pin the barrier against the trench wall. The fabric shall be laid in a continuous barrier without gaps. Splices shall be made tight and permanent using the manufacturer's locking strips installed per instructions. Tamp soil gently and firmly into place as backfilling is accomplished to prevent soil settling. Avoid collapsing or distorting the barrier when backfilling. Cutting shall be accomplished using a sharp knife.
4. Price for root barriers shall include labor, materials, equipment and all incidentals necessary to provide a complete installation.
5. Root barrier shall be installed against hardscape features, or as shown diagrammatically on the Drawings, not encircling tree rootball. Install per manufacturer recommendations.

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 SWPPP Risk Level 1.

1001-2.10 BMP Inspection, Maintenance, and Repair. To the "WHITEBOOK", ADD the following:

5. Maintenance activities shall be documented by the QSP or QSD in the Construction BMP Maintenance Log for projects subject to SWPPP requirements. See **Appendix I - SWPPP Construction BMP Maintenance Log.**
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TECHNICALS

R.E. South Bay Community Park

Project Specifications

FINAL SUBMITTAL

6/6/23

Spurlock Landscape Architects

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JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Nonstaining silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Mildew-resistant joint sealants.
 - 4. Butyl joint sealants.
 - 5. Latex joint sealants.

1.3 PREINSTALLATION MEETINGS

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.

- B. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency.
- C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.
- D. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.
- E. Field-Adhesion-Test Reports: For each sealant application tested.
- F. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.
- C. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - 2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
 - 3. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
 - 4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 - 5. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.
 - 6. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials matching those submitted.
- B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2. Conduct field tests for each kind of sealant and joint substrate.
3. Notify Architect seven days in advance of dates and times when test joints will be erected.
4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.8 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.9 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

- A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.
- B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Dow Corning Corporation
 - b. GE Construction Sealants; Momentive Performance Materials Inc.
 - c. May National Associates, Inc.; a subsidiary of Sika Corporation
 - d. Pecora Corporation
 - e. Sika Corporation; Joint Sealants
 - f. Or Approved Equal

- C. Silicone, Nonstaining, S, NS, 100/50, T, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, traffic- and nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Uses T and NT.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Dow Corning Corporation
 - b. Or Approved Equal

2.3 URETHANE JOINT SEALANTS

- A. Urethane, S, NS, 100/50, T, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Uses T and NT.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

- a. Sika Corporation; Joint Sealants
- b. Or Approved Equal

B. Urethane, S, NS, 25, T, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Uses T and NT.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

- a. BASF Corporation; Construction Systems
- b. Or Approved Equal

2.4 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.

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

- a. Dow Corning Corporation
- b. GE Construction Sealants; Momentive Performance Materials Inc.
- c. May National Associates, Inc.; a subsidiary of Sika Corporation
- d. Or Approved Equal

2.5 BUTYL JOINT SEALANTS

A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.

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

- a. Bostik, Inc.
- b. Pecora Corporation
- c. Or Approved Equal

2.6 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

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

- a. May National Associates, Inc.; a subsidiary of Sika Corporation

- b. Pecora Corporation
- c. Sherwin-Williams Company (The)
- d. Or Approved Equal

2.7 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. BASF Corporation; Construction Systems
 - b. Or Approved Equal
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.8 MISCELLANEOUS MATERIALS

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

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
 2. Do not stretch, twist, puncture, or tear sealant backings.

3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.
 4. Provide flush joint profile at locations indicated on Drawings according to Figure 8B in ASTM C 1193.
 5. Provide recessed joint configuration of recess depth and at locations indicated on Drawings according to Figure 8C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
 1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 10 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
 - b. Perform one test for each 1000 feet of joint length thereafter or one test per each floor per elevation.
 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.

- c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
 4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
 5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

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

3.6 PROTECTION

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

3.7 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
 1. Joint Locations:
 - a. Control and expansion joints in brick pavers.
 - b. Isolation and contraction joints in cast-in-place concrete slabs.
 - c. Joints between plant-precast architectural concrete paving units.
 - d. Joints in stone paving units, including steps.
 - e. Tile control and expansion joints.
 - f. Joints between different materials listed above.
 - g. Other joints as indicated on Drawings.
 2. Joint Sealant: Urethane, M, P, 50, T, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Joints between plant-precast architectural concrete units.
 - c. Control and expansion joints in unit masonry.
 - d. Joints in dimension stone cladding.
 - e. Joints in glass unit masonry assemblies.
 - f. Joints in exterior insulation and finish systems.
 - g. Joints between metal panels.
 - h. Joints between different materials listed above.
 - i. Perimeter joints between materials listed above and frames of doors, windows, and louvers.
 - j. Control and expansion joints in ceilings, and other overhead surfaces.
 - k. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 - b. Control and expansion joints in stone flooring.
 - c. Control and expansion joints in brick flooring.
 - d. Control and expansion joints in tile flooring.
 - e. Other joints as indicated on Drawings.
 2. Joint Sealant: Urethane, S, P, 25, T, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Tile control and expansion joints.
 - c. Vertical joints on exposed surfaces of unit masonry or concrete walls and partitions.
 - d. Joints on underside of plant-precast structural concrete beams and planks.
 - e. Other joints as indicated on Drawings.
 2. Joint Sealant: Urethane, S, NS, 25, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- E. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.
1. Joint Locations:
 - a. Control joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints between interior wall surfaces and frames of interior doors, windows, and elevator entrances.
 - c. Other joints as indicated on Drawings.

2. Joint Sealant: Acrylic latex.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- F. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Locations:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- G. Joint-Sealant Application: Concealed mastics.
1. Joint Locations:
 - a. Aluminum thresholds.
 - b. Sill plates.
 - c. Other joints as indicated on Drawings.
 2. Joint Sealant: Butyl-rubber based.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07 92 00

SECTION 10 14 23

PANEL SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Panel signs.
 - 2. Illuminated panel signs.
 - 3. Field-applied, vinyl-character signs.

1.3 DEFINITIONS

- A. Accessible: In accordance with the accessibility standard.
- B. Illuminated: Illuminated by lighting source integrally constructed as part of the sign unit.

1.4 COORDINATION

- A. Furnish templates for placement of sign-anchorage devices embedded in permanent construction by other installers.
- B. Furnish templates for placement of electrical service embedded in permanent construction by other installers.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For panel signs.
 - 1. Include fabrication and installation details and attachments to other work.
 - 2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
 - 3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.
 - 4. Show locations of electrical service connections.
 - 5. Include diagrams for power, signal, and control wiring.

- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
 - 1. Include representative Samples of available typestyles and graphic symbols.
- D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:
 - 1. Panel Signs: Full-size Sample.
 - 2. Field-Applied, Vinyl-Character Signs: Full-size Sample of characters on glass.
 - 3. Variable Component Materials: Full-size Sample of each base material, character (letter, number, and graphic element) in each exposed color and finish not included in Samples above.
 - 4. Exposed Accessories: Full-size Sample of each accessory type.
 - 5. Full-size Samples, if approved, will be returned to Contractor for use in Project.
- E. Product Schedule: For panel signs. Use same designations indicated on Drawings or specified.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Evaluation Reports: For post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.
- C. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

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

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Single Source Responsibility: For each separate sign type required, obtain signs from one source of a single manufacturer.
- C. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines, ICC/ANSI A117.1 and the California Building Code (CBC).
 - 1. Raised Characters shall comply with CBC Section 11B-703.2:
 - a. Depth: It shall be 1/32 inch (0.8mm) minimum above their background and shall be sans serif uppercase and be duplicated in Braille.
 - b. Height: It shall be 5/8/inch (15.9mm) minimum and 2 inches (51mm) maximum based on the height of the uppercase letter "I". CBC Section 11B-703.2.5.
 - c. Finish and Contrast: Characters and their background shall have a non-glare finish. Character shall contrast with their background with either light characters on a dark background or dark characters on a light background. CBC Section 11B-703.5.1.

- d. Proportions: It shall be selected from fonts where the width of the uppercase letter "O" is 60% minimum and 110% maximum of the height of the upper case letter "I". Stroke thickness of the uppercase letter "I" shall be 15% maximum of the height of the character. CBC Sections 11B-703.4 and 11B-703.6.
 - e. Character Spacing: Spacing between individual tactile characters shall comply with CBC Sections 11B-703.2.7 and 11B-703.2.8.
 - f. Braille: It shall be contracted (Grade 2) and shall comply with CBC Sections 11B-703.3 and 11B-703.4. Braille dots shall have a domed and rounded shape and shall comply with CBC Table and Figure 11B-703.3.1.
 - g. Mounting Heights: A tactile sign shall be located 48" minimum to the baseline of the lowest Braille cells and 60" maximum to the baseline of the highest line of raised characters above the finish floor or ground surface.
 - h. Mounting Location: A tactile sign shall be located on the approach side, as one enters or exits rooms or space, and be reached within 0" of the required clear floor space per CBC Section and Figure 703.4.2 as follows:
 - 1) A clear floor space of 18" x 18" minimum, centered on the tactile characters, shall be provided beyond the arc of any door swings between the closed position and 45 degree open position.
 - 2) On the wall of the latch side of a single door.
 - 3) On the inactive leaf of a double door with one active leaf.
 - 4) On the wall at the right side of a double door with two active leaves.
 - 5) On the nearest adjacent wall where there is no wall space at the latch side of a single door or no space at the right side of a double door with two active leaves.
- 2. Visual Characters shall comply with CBC Section 11B-703.5 and shall be 40" minimum above finish floor or ground.
 - 3. Pictograms shall comply with CBC Section 11B-703.6.
 - 4. Symbol of accessibility shall comply with CBC Section 11B-703.7.

1.9 FIELD CONDITIONS

- A. Field Measurements: Verify locations of anchorage devices and electrical service embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of finishes beyond normal weathering.
 - b. Deterioration of embedded graphic image.
 - c. Separation or delamination of sheet materials and components.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.
- B. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", ICC A117.1, and the California Building Code (CBC)..
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 PANEL SIGNS

- A. Panel Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ASI Sign Systems, Inc.
 - b. Best Sign Systems, Inc.
 - c. Vomar Products, Inc.
 - d. Or Approved Equal
 - 2. Illuminated Panel Sign: Backlighted or Edgelighted construction with LED lighting including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from sign surfaces as needed to illuminate evenly.
 - a. Power: As indicated on electrical Drawings.
 - b. Weeps: Provide weep holes to drain water at lowest part of exterior signs. Equip weeps with permanent baffles to block light leakage without inhibiting drainage.
 - 3. Solid-Sheet Sign: Acrylic sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph and as follows:
 - a. Thickness: 0.25 inch.
 - b. Surface-Applied, Flat Graphics: Applied vinyl film.
 - c. Surface-Applied, Raised Graphics: Applied polymer characters and Braille.
 - d. Etched and Filled Graphics: Sign face etched or routed to receive enamel-paint infill.
 - 4. Sign-Panel Perimeter: Finish edges smooth.
 - a. Edge Condition: As indicated on Drawings.
 - b. Corner Condition in Elevation: As indicated on Drawings.
 - 5. Mounting: As indicated on Drawings with.

PANEL SIGNAGE

6. Surface Finish and Applied Graphics:
 - a. Integral Acrylic Sheet Color: As selected by Architect from full range of industry colors.
 - b. Overcoat: Manufacturer's standard baked-on clear coating.
7. Text and Typeface: Accessible raised characters and Braille typeface as selected by Architect from manufacturer's full range. Finish raised characters to contrast with background color, and finish Braille to match background color.
8. Flatness Tolerance: Sign shall remain flat or uniformly curved under installed conditions as indicated on Drawings and within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

2.3 FIELD-APPLIED, VINYL-CHARACTER SIGNS

- A. Field-Applied, Vinyl-Character Sign: Prespaced characters die cut from 3- to 3.5-mil thick, weather-resistant vinyl film with release liner on the back and carrier film on the front for on-site alignment and application.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Allen Markings.
 - b. APCO Graphics, Inc.
 - c. Mohawk Sign Systems.
 - d. Or Approved Equal
 2. Size: As indicated on Drawings or As scheduled.
 3. Substrate: As indicated on Drawings.
 4. Text and Font: As indicated on Drawings.

2.4 PANEL-SIGN MATERIALS

- A. Aluminum Sheet and Plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.
- C. Steel Materials:
 1. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, G90 coating, either commercial or forming steel.
 2. Steel Members Fabricated from Plate or Bar Stock: ASTM A 529/A 529M or ASTM A 572/A 572M, 42,000-psi minimum yield strength.
 3. For steel exposed to view on completion, provide materials having flat, smooth surfaces without blemishes. Do not use materials whose surfaces exhibit pitting, seam marks, roller marks, rolled trade names, or roughness.
- D. Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

- E. Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form characters or images as indicated on Drawings and suitable for exterior applications.
- F. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.5 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:
 - 1. Use concealed fasteners and anchors unless indicated to be exposed.
 - 2. For exterior exposure, furnish stainless-steel or hot-dip galvanized devices unless otherwise indicated.
 - 3. Exposed Metal-Fastener Components, General:
 - a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.
 - b. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant Allen-head, spanner-head, or one-way-head slots unless otherwise indicated.
 - 4. Sign Mounting Fasteners:
 - a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly unless otherwise indicated.
 - b. Projecting Studs: Threaded studs with sleeve spacer, welded or brazed to back of sign material or screwed into back of sign assembly, unless otherwise indicated.
 - c. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, and installed in predrilled holes.
 - 5. Inserts: Furnish inserts to be set by other installers into concrete or masonry work.
- B. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicated; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01, ICC-ES AC193, ICC-ES AC58, or ICC-ES AC308 as appropriate for the substrate.
 - 1. Uses: Securing signs with imposed loads to structure.
 - 2. Type: Torque-controlled, expansion anchor, torque-controlled, adhesive anchor or adhesive anchor.
 - 3. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.
 - 4. Material for Exterior or Interior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 or Group 2 stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.
- C. Power-Actuated Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

- D. Adhesive: As recommended by sign manufacturer.
- E. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.
- F. Hook-and-Loop Tape: Manufacturer's standard two-part tape consisting of hooked part on sign back and looped side on mounting surface.
- G. Magnetic Tape: Manufacturer's standard magnetic tape with adhesive on one side.
- H. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

2.6 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
 - 1. Preassemble signs in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
 - 2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
 - 3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
 - 4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
 - 5. Internally brace signs for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
 - 6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
- B. Surface-Engraved Graphics: Machine engrave characters and other graphic devices into indicated sign surface to produce precisely formed copy, incised to uniform depth.
 - 1. Engraved Metal: Fill engraved graphics with manufacturer's standard baked enamel.
 - 2. Engraved Opaque Acrylic Sheet: Fill engraved graphics with manufacturer's standard enamel.
 - 3. Face-Engraved Clear Acrylic Sheet: Fill engraved copy with manufacturer's standard enamel. Apply manufacturer's standard opaque background color coating to back face of acrylic sheet.
- C. Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.
- D. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.
 - 1. Aluminum Brackets: Factory finish brackets with baked-enamel or powder-coat finish to match sign-background color unless otherwise indicated.

2. Stainless-Steel Brackets: Factory finish brackets with No. 4 finish unless otherwise indicated.

2.7 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.
- D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.8 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.
- B. Color Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.
- C. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

2.9 METALLIC-COATED STEEL FINISHES

- A. Surface Preparation: Clean surfaces of oil and other contaminants. Use cleaning methods that do not leave residue. After cleaning, apply a conversion coating compatible with the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas and apply galvanizing repair paint, complying with SSPC-Paint 20, to comply with ASTM A 780/A 780M.
- B. Factory Prime Finish: After cleaning and pretreating, apply an air-dried primer compatible with the organic coating to be applied over it.
- C. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.

2.10 STEEL FINISHES

- A. Surface Preparation: Remove mill scale and rust, if present, from uncoated steel, and prepare for coating according to coating manufacturer's written instructions.
 1. For Baked-Enamel or Powder-Coat Finish: After cleaning, apply a conversion coating compatible with the organic coating to be applied over it.

- B. Factory Prime Finish: After surface preparation and pretreatment, apply manufacturer's standard, fast-curing, lead- and chromate-free, universal primer.
- C. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.

2.11 STAINLESS-STEEL FINISHES

- A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
 - 1. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.
 - 2. Directional Satin Finish: No. 4.
 - 3. Dull Satin Finish: No. 6.
 - 4. Reflective, Directional Polish: No. 7.
 - 5. Mirrorlike Reflective, Nondirectional Polish: No. 8.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Verify that anchorage devices embedded in permanent construction are correctly sized and located to accommodate signs.
- D. Verify that electrical service is correctly sized and located to accommodate signs.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
 - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
 - 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
 - 4. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

- B. Accessible Signage: Install in locations on walls as indicated on Drawings and according to the accessibility standard.
- C. Mounting Methods:
1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
 - b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.
 2. Projecting Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place spacers on studs, place sign in position, and push until spacers are pinched between sign and substrate, embedding the stud ends in holes. Temporarily support sign in position until adhesive fully sets.
 - b. Thin or Hollow Surfaces: Place spacers on studs, place sign in position with spacers pinched between sign and substrate, and install washers and nuts on stud ends projecting through opposite side of surface, and tighten.
 3. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
 4. Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position so that signage is correctly located and aligned.
 5. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.
 6. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.
 7. Hook-and-Loop Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply sign component of two-part tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage; push to engage tape adhesive. Keep tape strips 0.250 inch away from edges to prevent visibility at sign edges when sign is initially installed or reinstalled. Apply substrate component of tape to substrate in locations aligning with tape on back of sign; push and rub well to fully engage tape adhesive to substrate.
 8. Magnetic Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position.
 9. Shim-Plate Mounting: Provide 1/8-inch- thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other direct mounting methods are impractical. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach signs to plate using method specified above.

- D. Field-Applied, Vinyl-Character Signs: Clean and dry substrate. Align sign characters in final position before removing release liner. Remove release liner in stages, and apply and firmly press characters into final position. Press from the middle outward to obtain good bond without blisters or fishmouths. Remove carrier film without disturbing applied vinyl film.
- E. Signs Mounted on Glass: Provide opaque sheet matching sign material and finish onto opposite side of glass to conceal back of sign.

3.3 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 10 14 23

SECTION 10 28 00

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Warm-air dryers.
 - 3. Underlavatory guards.
 - 4. Custodial accessories.

1.3 COORDINATION

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

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Include electrical characteristics.
- B. Samples: Full size, for each exposed product and for each finish specified.
 - 1. Approved full-size Samples will be returned and may be used in the Work.
- C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated.
 - 2. Identify accessories using designations indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

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

1.7 WARRANTY

- A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, visible silver spoilage defects.
 - 2. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED MATERIALS

- A. Owner-Furnished Materials: Soap dispenser, jumbo-roll toilet tissue dispenser, toilet seat cover dispenser, and baby changing station.

2.2 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 PUBLIC-USE WASHROOM ACCESSORIES

- A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.
- B. Toilet Tissue (Jumbo Roll) Dispenser (at all non-accessible toilet stalls):
 - 1. Manufacturers: Subject to compliance with requirements, provide the following product:
 - a. Tork Elevation Bath Tissue Jumbo Roll Dispenser
 - b. Or Approved Equal
 - 2. Description: Single-roll dispenser.
 - 3. Mounting: Surface mounted.
 - 4. Capacity: Designed for 9- or 10-inch- diameter tissue rolls.
 - 5. Material and Finish: ABS plastic, white.
 - 6. Lockset: Key type.
- C. Toilet Tissue (Roll) Dispenser at accessible toilet room and stalls:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.; B-3888 (Basis of Design)
 - b. Bradley Corporation
 - c. Or Approved Equal
 2. Description: Roll-in-reserve dispenser with hinged front secured with tumbler lockset.
 3. Mounting: Recessed.
 4. Operation: Noncontrol delivery with theft-resistant spindle.
 5. Capacity: Designed for 5-inch- diameter tissue rolls.
 6. Material and Finish: Stainless steel, No. 4 finish (satin).
- D. Paper Towel (C-Folded) Dispenser:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.; B-262 (Basis of Design)
 - b. Bradley Corporation
 - c. Or Approved Equal
 2. Mounting: Surface mounted.
 3. Minimum Capacity: 400 C-fold.
 4. Material and Finish: Stainless steel, No. 4 finish (satin).
 5. Lockset: Tumbler type.
 6. Refill Indicator: Pierced slots at sides or front.
- E. Combination Towel (Folded) Dispenser/Waste Receptacle:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.; B-3944 (Basis of Design)
 - b. Bradley Corporation
 - c. Or Approved Equal
 2. Description: Combination unit for dispensing C-fold or multifold towels, with removable waste receptacle.
 3. Mounting: Recessed with projecting receptacle.
 - a. Designed for nominal 4-inch wall depth.
 4. Minimum Towel-Dispenser Capacity: 600 C-fold or 800 multifold paper towels.
 5. Minimum Waste-Receptacle Capacity: 12 gal.
 6. Material and Finish: Stainless steel, No. 4 finish (satin).
 7. Liner: Reusable, vinyl waste-receptacle liner.
 8. Lockset: Tumbler type for towel-dispenser compartment and waste receptacle.
- F. Liquid-Soap Dispenser:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.; B-40 (Basis of Design)

- b. Bradley Corporation
 - c. Or Approved Equal
 - 2. Description: Designed for dispensing soap in liquid or lotion form.
 - 3. Mounting: Horizontally oriented, surface mounted.
 - 4. Capacity: 40 fl. oz.
 - 5. Materials: High impact-resistant ABS Plastic.
- G. Grab Bar:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.; B-6806 (Basis of Design)
 - b. Bradley Corporation
 - c. Or Approved Equal
 - 2. Mounting: Flanges with concealed fasteners.
 - 3. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, No. 4 finish (satin) on ends and slip-resistant texture in grip area.
 - 4. Outside Diameter: 1-1/2 inches.
 - 5. Configuration and Length: As indicated on Drawings.
- H. Seat-Cover Dispenser:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Bobrick Washroom Equipment, Inc.; B-221
 - b. Or Approved Equal
 - 2. Mounting: Surface mounted.
 - 3. Minimum Capacity: 250 seat covers.
 - 4. Exposed Material and Finish: Stainless steel, No. 4 finish (satin).
 - 5. Lockset: Tumbler type.
- I. Mirror Unit:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.; B-165 (Basis of Design)
 - b. Bradley Corporation
 - c. Or Approved Equal
 - 2. Frame: Stainless-steel angle, 0.05 inch thick.
 - a. Corners: Manufacturer's standard.
 - 3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.

- a. Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.
4. Size: As indicated on Drawings.
- J. Baby Changing Station, C.F.C.I:
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Koala Kare, KB110-SSWM
 - b. Foundations, Model 5410339
 - d. Or Approved Equal
 2. Mounting: Surface mounted
 3. Minimum Capacity: 25 sanitary liners.
 4. Exposed Material and Finish: Stainless steel, No. 4 finish (satin) with high-density grey polyethylene interior.
 5. Closing Mechanism: Pneumatic Cylinder

2.4 UNDERLAVATORY GUARDS

- A. Underlavatory Guard:
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Plumberex Specialty Products, Inc.
 - b. Truebro by IPS Corporation.
 - c. Or Approved Equal
 2. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
 3. Material and Finish: Antimicrobial, molded plastic, white.

2.5 CUSTODIAL ACCESSORIES

- A. Source Limitations: Obtain custodial accessories from single source from single manufacturer.
- B. Mop and Broom Holder:
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bobrick Washroom Equipment, Inc.; B-223 (Basis of Design)
 - b. Bradley Corporation
 - c. Or Approved Equal
 2. Description: Unit with shelf, hooks, holders, and rod suspended beneath shelf.
 3. Length: 36 inches.

4. Hooks: Four.
5. Mop/Broom Holders: Three, spring-loaded, rubber hat, cam type.
6. Material and Finish: Stainless steel, No. 4 finish (satin).
 - a. Shelf: Not less than nominal 0.05-inch- thick stainless steel.
 - b. Rod: Approximately 1/4-inch- diameter stainless steel.

2.6 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.
- B. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.
- C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch minimum nominal thickness.
- D. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating.
- E. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

2.7 FABRICATION

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

PART 3 - EXECUTION

3.1 INSTALLATION

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

3.2 ADJUSTING AND CLEANING

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

END OF SECTION 10 28 00

SECTION 22 42 13.13

COMMERCIAL WATER CLOSETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Water closets.
2. Flushometer valves.
3. Toilet seats.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 FLOOR-MOUNTED, BOTTOM-OUTLET WATER CLOSETS

A. Water Closets WC-1: Floor mounted, bottom outlet, top spud.

1. As noted on Plumbing Fixture Connection Schedule or Equal

2.2 FLUSHOMETER VALVES

A. Lever-Handle, Diaphragm Flushometer Valves WC-1:

1. As noted on Plumbing Fixture Connection Schedule or Equal

2.3 TOILET SEATS

A. Toilet Seats WC-1:

1. As noted on Plumbing Fixture Connection Schedule or Equal

PART 3 - EXECUTION

3.1 INSTALLATION

A. Water-Closet Installation:

1. Install level and plumb according to roughing-in drawings.
2. Install floor-mounted water closets on bowl-to-drain connecting fitting attachments to piping or building substrate.
3. Install accessible, wall-mounted water closets at mounting height for handicapped/elderly, according to ICC/ANSI A117.1.

B. Support Installation:

1. Install supports, affixed to building substrate, for floor-mounted, back-outlet water closets.
2. Use carrier supports with waste-fitting assembly and seal.

C. Flushometer-Valve Installation:

1. Install flushometer-valve, water-supply fitting on each supply to each water closet.
2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
3. Install lever-handle flushometer valves for accessible water closets with handle mounted on open side of water closet.
4. Install actuators in locations that are easy for people with disabilities to reach.

D. Install toilet seats on water closets.

E. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.

F. Joint Sealing:

1. Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to water-closet color.
3. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."

3.2 CONNECTIONS

- A. Connect water closets with water supplies and soil, waste, and vent piping. Use size fittings required to match water closets.
- B. Where installing piping adjacent to water closets, allow space for service and maintenance.

3.3 ADJUSTING

- A. Operate and adjust water closets and controls. Replace damaged and malfunctioning water closets, fittings, and controls.

- B. Adjust water pressure at flushometer valves to produce proper flow.

3.4 CLEANING AND PROTECTION

- A. Clean water closets and fittings with manufacturers' recommended cleaning methods and materials.
- B. Install protective covering for installed water closets and fittings.
- C. Do not allow use of water closets for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 42 13.13

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Building wires and cables rated 600 V and less.
 - 2. Connectors, splices, and terminations rated 2000 V and less.

1.3 ACTION SUBMITTALS

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

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer's authorized service representative.
- B. Field quality-control reports.

1.5 QUALITY ASSURANCE

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

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

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

2. American Bare Conductor.
3. Belden Inc.
4. Cerro Wire LLC.
5. Encore Wire Corporation.
6. General Cable Technologies Corporation.
7. Service Wire Co.
8. Southwire Company
9. Or Approved Equal

- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with NEMA WC 70/ICEA S-95-658.
1. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN/THWN-2.

2.2 CONNECTORS AND SPLICES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. 3M Electrical Products.
 2. AFC Cable Systems; a part of Atkore International.
 3. Gardner Bender.
 4. Hubbell Power Systems, Inc.
 5. Ideal Industries, Inc.
 6. ILSCO.
 7. NSi Industries LLC.
 8. O-Z/Gedney; a brand of Emerson Industrial Automation.
 9. Service Wire Co.
 10. TE Connectivity Ltd.
 11. Or Approved Equal
- B. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper; Stranded minimum #12 AWG.
- B. Branch Circuits: Copper. Stranded, minimum #12 AWG.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN/THWN-2, single conductors in raceway.
- B. Branch Circuits Concealed Underground: Type THHN/THWN-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables underground in finished walls, ceilings, and under bridge structures unless otherwise indicated.
- B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 26 05 53 "Identification for Electrical Systems."
- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

- B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:
1. Perform each of the following visual and electrical tests:
 - a. Inspect exposed sections of conductor and cable for physical damage and correct connection according to the single-line diagram.
 - b. Test bolted connections for high resistance using one of the following:
 - 1) A low-resistance ohmmeter.
 - 2) Calibrated torque wrench.
 - c. Inspect compression applied connectors for correct cable match and indentation.
 - d. Inspect for correct identification.
 - e. Inspect cable jacket and condition.
 - f. Insulation-resistance test on each conductor with respect to ground and adjacent conductors. Apply a potential of 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable for a one-minute duration.
 - g. Continuity test on each conductor and cable.
 - h. Uniform resistance of parallel conductors.
- C. Cables will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports to record the following:
1. Procedures used.
 2. Results that comply with requirements.
 3. Results that do not comply with requirements and corrective action taken to achieve compliance with requirements.

END OF SECTION 26 05 19

SECTION 26 05 53

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for conductors.
 - 2. Underground-line warning tape.
 - 3. Warning labels and signs.
 - 4. Equipment identification labels, including arc-flash warning labels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for electrical identification products.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1 and IEEE C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

2.2 COLOR AND LEGEND REQUIREMENTS

- A. Cables Carrying Circuits at 600 V or Less:

1. Black letters on an white field.

- B. Warning labels and signs shall include, but are not limited to, the following legends:

1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."

2.3 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. Black letters on a white background. Minimum letter height shall be 3/8 inch (10 mm).

2.4 LABELS

- A. Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

2.5 TAPES AND STENCILS:

- A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

- B. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide; compounded for outdoor use.

- C. Underground-Line Warning Tape

1. Tape:

- a. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.
- b. Printing on tape shall be permanent and shall not be damaged by burial operations.
- c. Tape material and ink shall be chemically inert and not subject to degradation when exposed to acids, alkalis, and other destructive substances commonly found in soils.

2. Color and Printing:

- a. Comply with ANSI Z535.1, ANSI Z535.2, ANSI Z535.3, ANSI Z535.4, and ANSI Z535.5.
- b. Inscriptions for Red-Colored Tapes: "ELECTRIC LINE, HIGH VOLTAGE".

2.6 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Verify identity of each item before installing identification products.
- C. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.
- D. Apply identification devices to surfaces that require finish after completing finish work.
- E. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- F. Attach plastic raceway and cable labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to the location and substrate.
- G. During backfilling of trenches, install continuous underground-line warning tape directly above cable or raceway at 6 to 8 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench exceeds 16 inches (400 mm) overall.

3.3 IDENTIFICATION SCHEDULE

- A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, and handholes, use color-coding conductor tape to identify the phase.
 - 1. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors.
 - a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG if authorities having jurisdiction permit.
 - b. Colors for 208/120-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.

- c. Colors for 480/277-V Circuits:
 - 1) Phase A: Brown.
 - 2) Phase B: Orange.
 - 3) Phase C: Yellow.
2. Color for Neutral: White.
3. Color for Equipment Grounds: Green.
 - a. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- B. Control-Circuit Conductor Identification: For conductors and cables in pull and junction boxes, manholes, and handholes, use self-adhesive vinyl labels with the conductor or cable designation, origin, and destination.
- C. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 2. Use system of marker-tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- D. Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, and control wiring cable.
 1. Install underground-line warning tape for direct-buried cables and cables in raceways.
- E. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual. Apply labels to disconnect switches and protection equipment, control panels. Systems include power, lighting, control, communication, signal, monitoring, and alarm unless equipment is provided with its own identification.
 1. Labeling Instructions:
 - a. Outdoor Equipment: Engraved, laminated acrylic or melamine label.
 - b. Unless labels are provided with self-adhesive means of attachment, fasten them with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.
 - c. Black letters on white field.
 2. Equipment To Be Labeled:
 - a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be in the form of an engraved, laminated acrylic label.

- b. Enclosures and electrical cabinets.
- c. Enclosed controllers.
- d. Contactors.
- e. Remote-controlled switches, dimmer modules, and control devices.
- f. Sports lighting controllers.
- g. Switchboards.
- h. Transformers.
- i. Circuit Breakers.

END OF SECTION 26 05 53

SECTION 26 05 73.13

SHORT-CIRCUIT STUDIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes a computer-based, fault-current study to determine the minimum interrupting capacity of circuit protective devices.

1.3 DEFINITIONS

- A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled. Existing to remain items shall remain functional throughout the construction period.
- B. Field Adjusting Agency: An independent electrical testing agency with full-time employees and the capability to adjust devices and conduct testing indicated and that is a member company of NETA.
- C. One-Line Diagram: A diagram that shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.
- D. Power System Analysis Software Developer: An entity that commercially develops, maintains, and distributes computer software used for power system studies.
- E. Power Systems Analysis Specialist: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located.
- F. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion of the circuit from the system.
- G. SCCR: Short-circuit current rating.
- H. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.
- I. Single-Line Diagram: See "One-Line Diagram."

1.4 ACTION SUBMITTALS

- A. Product Data:

1. For computer software program to be used for studies.
2. Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.
 - a. Short-circuit study input data, including completed computer program input data sheets.
 - b. Short-circuit study and equipment evaluation report; signed, dated, and sealed by a qualified professional engineer.
 - 1) Submit study report for action prior to receiving final approval of distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary submittal of sufficient study data to ensure that selection of devices and associated characteristics is satisfactory.
 - 2) Revised one-line diagram, reflecting field investigation results and results of short-circuit study.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data:

1. For Power Systems Analysis Software Developer.
2. For Power System Analysis Specialist.
3. For Field Adjusting Agency.

B. Product Certificates: For short-circuit study software, certifying compliance with IEEE 399.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:

1. For overcurrent protective devices to include in emergency, operation, and maintenance manuals.
2. The following are from the Short-Circuit Study Report:
 - a. Final one-line diagram.
 - b. Final Short-Circuit Study Report.
 - c. Short-circuit study data files.
 - d. Power system data.

1.7 QUALITY ASSURANCE

- A. Study shall be performed using commercially developed and distributed software designed specifically for power system analysis.
- B. Software algorithms shall comply with requirements of standards and guides specified in this Section.
- C. Manual calculations are unacceptable.

1. Power System Analysis Software Qualifications: Computer program shall be designed to perform short-circuit studies or have a function, component, or add-on module designed to perform short-circuit studies.
 2. Computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.
- D. Power Systems Analysis Specialist Qualifications: Professional engineer licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.
- E. Short-Circuit Study Certification: Short-Circuit Study Report shall be signed and sealed by Power Systems Analysis Specialist.
- F. Field Adjusting Agency Qualifications:
1. Employer of a NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification responsible for all field adjusting of the Work.
 2. A member company of NETA.
 3. Acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 POWER SYSTEM ANALYSIS SOFTWARE DEVELOPERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
1. Operation Technology, Inc.
 2. Power Analytics, Corporation
 3. Or Approved Equal
- B. Comply with IEEE 399 and IEEE 551.
1. Analytical features of power systems analysis software program shall have capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.
- C. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output.

2.2 SHORT-CIRCUIT STUDY REPORT CONTENTS

- A. Executive summary of study findings.
- B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.
- C. One-line diagram of modeled power system, showing the following:
1. Protective device designations and ampere ratings.
 2. Conductor types, sizes, and lengths.
 3. Transformer kilovolt ampere (kVA) and voltage ratings.

4. Motor and generator designations and kVA ratings.
 5. Switchgear, switchboard, motor-control center, and panelboard designations and ratings.
 6. Derating factors and environmental conditions.
 7. Any revisions to electrical equipment required by the study.
- D. Comments and recommendations for system improvements or revisions in a written document, separate from one-line diagram.
- E. Protective Device Evaluation:
1. Evaluate equipment and protective devices and compare to available short-circuit currents. Verify that equipment withstand ratings exceed available short-circuit current at equipment installation locations.
 2. Tabulations of circuit breaker, fuse, and other protective device ratings versus calculated short-circuit duties.
 3. For 600-V overcurrent protective devices, ensure that interrupting ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.
 4. For devices and equipment rated for asymmetrical fault current, apply multiplication factors listed in standards to 1/2-cycle symmetrical fault current.
 5. Verify adequacy of phase conductors at maximum three-phase bolted fault currents; verify adequacy of equipment grounding conductors and grounding electrode conductors at maximum ground-fault currents. Ensure that short-circuit withstand ratings are equal to or higher than calculated 1/2-cycle symmetrical fault current.
- F. Short-Circuit Study Input Data:
1. One-line diagram of system being studied.
 2. Power sources available.
 3. Manufacturer, model, and interrupting rating of protective devices.
 4. Conductors.
 5. Transformer data.
- G. Short-Circuit Study Output Reports:
1. Low-Voltage Fault Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. Equivalent impedance.
 2. Momentary Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated symmetrical fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. Calculated asymmetrical fault currents:
 - 1) Based on fault-point X/R ratio.
 - 2) Based on calculated symmetrical value multiplied by 1.6.
 - 3) Based on calculated symmetrical value multiplied by 2.7.

3. Interrupting Duty Report: Three-phase and unbalanced fault calculations, showing the following for each overcurrent device location:
 - a. Voltage.
 - b. Calculated symmetrical fault-current magnitude and angle.
 - c. Fault-point X/R ratio.
 - d. No AC Decrement (NACD) ratio.
 - e. Equivalent impedance.
 - f. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a symmetrical basis.
 - g. Multiplying factors for 2-, 3-, 5-, and 8-cycle circuit breakers rated on a total basis.

PART 3 - EXECUTION

3.1 POWER SYSTEM DATA

- A. Obtain all data necessary for conduct of the study.
 1. Verify completeness of data supplied on one-line diagram. Call any discrepancies to Architect's attention.
 2. For equipment included as Work of this Project, use characteristics submitted under provisions of action submittals and information submittals for this Project.
 3. For equipment that is existing to remain, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. Qualifications of technicians and engineers shall be as defined by NFPA 70E.
- B. Gather and tabulate the required input data to support the short-circuit study. Record data on a Record Document copy of one-line diagram. Comply with recommendations in IEEE 551 as to the amount of detail that is required to be acquired in the field. Field data gathering shall be under direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification. Data include, but are not limited to, the following:
 1. Product Data for Project's overcurrent protective devices involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
 2. Obtain electrical power utility impedance at the service.
 3. Power sources and ties.
 4. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
 5. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
 6. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip, SCCR, current rating, and breaker settings.
 7. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
 8. Busway manufacturer and model designation, current rating, impedance, lengths, and conductor material.
 9. Motor horsepower and NEMA MG 1 code letter designation.
 10. Conductor sizes, lengths, number, conductor material and conduit material (magnetic or nonmagnetic).

11. Derating factors.

3.2 SHORT-CIRCUIT STUDY

- A. Perform study following the general study procedures contained in IEEE 399.
- B. Calculate short-circuit currents according to IEEE 551.
- C. Base study on device characteristics supplied by device manufacturer.
- D. Extent of electrical power system to be studied is indicated on Drawings.
- E. Begin short-circuit current analysis at the service, extending down to system overcurrent protective devices as follows:
 1. To normal system low-voltage load buses where fault current is 10 kA or less.
 2. Exclude equipment rated 240 V ac or less when supplied by a single transformer rated less than 125 kVA.
- F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.
- G. Include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase ac systems. Also account for the fault-current dc decrement to address asymmetrical requirements of interrupting equipment.
- H. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and a single line-to-ground fault at each equipment indicated on one-line diagram.
 1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.
- I. Include in the report identification of any protective device applied outside its capacity.

END OF SECTION 26 05 73.13

SECTION 26 05 73.16
COORDINATION STUDIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes computer-based, overcurrent protective device coordination studies to determine overcurrent protective devices and to determine overcurrent protective device settings for selective tripping.
 - 1. Study results shall be used to determine coordination of series-rated devices.

1.3 DEFINITIONS

- A. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled. Existing to remain items shall remain functional throughout the construction period.
- B. Field Adjusting Agency: An independent electrical testing agency with full-time employees and the capability to adjust devices and conduct testing indicated and that is a member company of NETA.
- C. One-Line Diagram: A diagram that shows, by means of single lines and graphic symbols, the course of an electric circuit or system of circuits and the component devices or parts used therein.
- D. Power System Analysis Software Developer: An entity that commercially develops, maintains, and distributes computer software used for power system studies.
- E. Power System Analysis Specialist: Professional engineer in charge of performing the study and documenting recommendations, licensed in the state where Project is located.
- F. Protective Device: A device that senses when an abnormal current flow exists and then removes the affected portion of the circuit from the system.
- G. SCCR: Short-circuit current rating.
- H. Service: The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premises served.
- I. Single-Line Diagram: See "One-Line Diagram."

1.4 ACTION SUBMITTALS

A. Product Data:

1. For computer software program to be used for studies.
2. Submit the following after the approval of system protective devices submittals. Submittals shall be in digital form.
 - a. Coordination-study input data, including completed computer program input data sheets.
 - b. Study and equipment evaluation reports.
3. Overcurrent protective device coordination study report; signed, dated, and sealed by a qualified professional engineer.
 - a. Submit study report for action prior to receiving final approval of distribution equipment submittals. If formal completion of studies will cause delay in equipment manufacturing, obtain approval from Architect for preliminary submittal of sufficient study data to ensure that selection of devices and associated characteristics is satisfactory.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data:

1. For Power System Analysis Software Developer.
2. For Power Systems Analysis Specialist.
3. For Field Adjusting Agency.

B. Product Certificates: For overcurrent protective device coordination study software, certifying compliance with IEEE 399.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For overcurrent protective devices to include in emergency, operation, and maintenance manuals.

1. The following are from the Coordination Study Report:
 - a. Final one-line diagram.
 - b. Final protective device coordination study.
 - c. Coordination study data files.
 - d. List of all protective device settings.
 - e. Time-current coordination curves.
 - f. Power system data.

1.7 QUALITY ASSURANCE

A. Studies shall be performed using commercially developed and distributed software designed specifically for power system analysis.

- B. Software algorithms shall comply with requirements of standards and guides specified in this Section.
- C. Manual calculations are unacceptable.
- D. Power System Analysis Software Qualifications:
 - 1. Computer program shall be designed to perform coordination studies or have a function, component, or add-on module designed to perform coordination studies.
 - 2. Computer program shall be developed under the charge of a licensed professional engineer who holds IEEE Computer Society's Certified Software Development Professional certification.
- E. Power Systems Analysis Specialist Qualifications: Professional engineer licensed in the state where Project is located. All elements of the study shall be performed under the direct supervision and control of this professional engineer.
- F. Field Adjusting Agency Qualifications:
 - 1. Employer of a NETA ETT-Certified Technician Level III responsible for all field adjusting of the Work.
 - 2. A member company of NETA.
 - 3. Acceptable to authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 POWER SYSTEM ANALYSIS SOFTWARE DEVELOPERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Operation Technology, Inc.
 - 2. Power Analytics, Corporation.
 - 3. Or Approved Equal
- B. Comply with IEEE 242 and IEEE 399.
- C. Analytical features of device coordination study computer software program shall have the capability to calculate "mandatory," "very desirable," and "desirable" features as listed in IEEE 399.
- D. Computer software program shall be capable of plotting and diagramming time-current-characteristic curves as part of its output. Computer software program shall report device settings and ratings of all overcurrent protective devices and shall demonstrate selective coordination by computer-generated, time-current coordination plots.
 - 1. Optional Features:
 - a. Arcing faults.
 - b. Simultaneous faults.

- c. Explicit negative sequence.
- d. Mutual coupling in zero sequence.

2.2 COORDINATION STUDY REPORT CONTENTS

- A. Executive summary of study findings.
- B. Study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpretation of results.
- C. One-line diagram of modeled power system, showing the following:
 - 1. Protective device designations and ampere ratings.
 - 2. Conductor types, sizes, and lengths.
 - 3. Transformer kilovolt ampere (kVA) and voltage ratings.
 - 4. Motor and generator designations and kVA ratings.
 - 5. Switchgear, switchboard, motor-control center, and panelboard designations.
 - 6. Any revisions to electrical equipment required by the study.
 - 7. Study Input Data: As described in "Power System Data" Article.
 - a. Short-Circuit Study Output: As specified in "Short-Circuit Study Output Reports" Paragraph in "Short-Circuit Study Report Contents" Article in Section 26 05 73.13 "Short-Circuit Studies."
- D. Protective Device Coordination Study:
 - 1. Report recommended settings of protective devices, ready to be applied in the field. Use manufacturer's data sheets for recording the recommended setting of overcurrent protective devices when available.
 - a. Phase and Ground Relays:
 - 1) Device tag.
 - 2) Relay current transformer ratio and tap, time dial, and instantaneous pickup value.
 - 3) Recommendations on improved relaying systems, if applicable.
 - b. Circuit Breakers:
 - 1) Adjustable pickups and time delays (long time, short time, and ground).
 - 2) Adjustable time-current characteristic.
 - 3) Adjustable instantaneous pickup.
 - 4) Recommendations on improved trip systems, if applicable.
 - c. Fuses: Show current rating, voltage, and class.
- E. Time-Current Coordination Curves: Determine settings of overcurrent protective devices to achieve selective coordination. Graphically illustrate that adequate time separation exists between devices installed in series, including power utility company's upstream devices. Prepare separate sets of curves for the switching schemes and for emergency periods where the power source is local generation. Show the following information:

1. Device tag and title, one-line diagram with legend identifying the portion of the system covered.
2. Terminate device characteristic curves at a point reflecting maximum symmetrical or asymmetrical fault current to which the device is exposed.
3. Identify the device associated with each curve by manufacturer type, function, and, if applicable, tap, time delay, and instantaneous settings recommended.
4. Plot the following listed characteristic curves, as applicable:
 - a. Power utility's overcurrent protective device.
 - b. Medium-voltage equipment overcurrent relays.
 - c. Medium- and low-voltage fuses including manufacturer's minimum melt, total clearing, tolerance, and damage bands.
 - d. Low-voltage equipment circuit-breaker trip devices, including manufacturer's tolerance bands.
 - e. Transformer full-load current, magnetizing inrush current, and ANSI through-fault protection curves.
 - f. Cables and conductors damage curves.
 - g. Ground-fault protective devices.
 - h. Motor-starting characteristics and motor damage points.
 - i. Generator short-circuit decrement curve and generator damage point.
 - j. The largest feeder circuit breaker in each motor-control center and panelboard.
5. Maintain selectivity for tripping currents caused by overloads.
6. Maintain maximum achievable selectivity for tripping currents caused by overloads on series-rated devices.
7. Provide adequate time margins between device characteristics such that selective operation is achieved.
8. Comments and recommendations for system improvements.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine Project overcurrent protective device submittals for compliance with electrical distribution system coordination requirements and other conditions affecting performance of the Work. Devices to be coordinated are indicated on Drawings.
 1. Proceed with coordination study only after relevant equipment submittals have been assembled. Overcurrent protective devices that have not been submitted and approved prior to coordination study may not be used in study.

3.2 POWER SYSTEM DATA

- A. Obtain all data necessary for conduct of the overcurrent protective device study.
 1. Verify completeness of data supplied in one-line diagram on Drawings. Call any discrepancies to Architect's attention.
 2. For equipment included as Work of this Project, use characteristics submitted under provisions of action submittals and information submittals for this Project.

3. For equipment that is existing to remain, obtain required electrical distribution system data by field investigation and surveys, conducted by qualified technicians and engineers. Qualifications of technicians and engineers shall be as defined by NFPA 70E.
- B. Gather and tabulate all required input data to support the coordination study. List below is a guide. Comply with recommendations in IEEE 551 for the amount of detail required to be acquired in the field. Field data gathering shall be under direct supervision and control of the engineer in charge of performing the study, and shall be by the engineer or its representative who holds NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification. Data include, but are not limited to, the following:
1. Product Data for overcurrent protective devices specified in other Sections and involved in overcurrent protective device coordination studies. Use equipment designation tags that are consistent with electrical distribution system diagrams, overcurrent protective device submittals, input and output data, and recommended device settings.
 2. Electrical power utility impedance at the service.
 3. Power sources and ties.
 4. Short-circuit current at each system bus (three phase and line to ground).
 5. Full-load current of all loads.
 6. Voltage level at each bus.
 7. For transformers, include kVA, primary and secondary voltages, connection type, impedance, X/R ratio, taps measured in percent, and phase shift.
 8. For reactors, provide manufacturer and model designation, voltage rating, and impedance.
 9. For circuit breakers and fuses, provide manufacturer and model designation. List type of breaker, type of trip and available range of settings, SCCR, current rating, and breaker settings.
 10. Generator short-circuit current contribution data, including short-circuit reactance, rated kVA, rated voltage, and X/R ratio.
 11. For relays, provide manufacturer and model designation, current transformer ratios, potential transformer ratios, and relay settings.
 12. Maximum demands from service meters.
 13. Busway manufacturer and model designation, current rating, impedance, lengths, size, and conductor material.
 14. Motor horsepower and NEMA MG 1 code letter designation.
 15. Low-voltage cable sizes, lengths, number, conductor material, and conduit material (magnetic or nonmagnetic).
 16. Medium-voltage cable sizes, lengths, conductor material, cable construction, metallic shield performance parameters, and conduit material (magnetic or nonmagnetic).
 17. Data sheets to supplement electrical distribution system one-line diagram, cross-referenced with tag numbers on diagram, showing the following:
 - a. Special load considerations, including starting inrush currents and frequent starting and stopping.
 - b. Transformer characteristics, including primary protective device, magnetic inrush current, and overload capability.
 - c. Motor full-load current, locked rotor current, service factor, starting time, type of start, and thermal-damage curve.
 - d. Generator thermal-damage curve.
 - e. Ratings, types, and settings of utility company's overcurrent protective devices.

- f. Special overcurrent protective device settings or types stipulated by utility company.
- g. Time-current-characteristic curves of devices indicated to be coordinated.
- h. Manufacturer, frame size, interrupting rating in amperes root mean square (rms) symmetrical, ampere or current sensor rating, long-time adjustment range, short-time adjustment range, and instantaneous adjustment range for circuit breakers.
- i. Manufacturer and type, ampere-tap adjustment range, time-delay adjustment range, instantaneous attachment adjustment range, and current transformer ratio for overcurrent relays.
- j. Switchgear, switchboards, motor-control centers, and panelboards ampacity, and SCCR in amperes rms symmetrical.
- k. Identify series-rated interrupting devices for a condition where the available fault current is greater than the interrupting rating of downstream equipment. Obtain device data details to allow verification that series application of these devices complies with NFPA 70 and UL 489 requirements.

3.3 COORDINATION STUDY

- A. Comply with IEEE 242 for calculating short-circuit currents and determining coordination time intervals.
- B. Comply with IEEE 399 for general study procedures.
- C. Base study on device characteristics supplied by device manufacturer.
- D. Extent of electrical power system to be studied is indicated on Drawings.
- E. Begin analysis at the service, extending down to system overcurrent protective devices as follows:
 - 1. To normal system low-voltage load buses where fault current is 10 kA or less.
 - 2. Exclude equipment rated 240 V ac or less when supplied by a single transformer rated less than 125 kVA.
- F. Study electrical distribution system from normal and alternate power sources throughout electrical distribution system for Project. Study all cases of system-switching configurations and alternate operations that could result in maximum fault conditions.
- G. Transformer Primary Overcurrent Protective Devices:
 - 1. Device shall not operate in response to the following:
 - a. Inrush current when first energized.
 - b. Self-cooled, full-load current or forced-air-cooled, full-load current, whichever is specified for that transformer.
 - c. Permissible transformer overloads according to IEEE C57.96 if required by unusual loading or emergency conditions.
 - 2. Device settings shall protect transformers according to IEEE C57.12.00, for fault currents.

- H. Motor Protection:
 - 1. Select protection for low-voltage motors according to IEEE 242 and NFPA 70.
 - 2. Select protection for motors served at voltages more than 600 V according to IEEE 620.
- I. Conductor Protection: Protect cables against damage from fault currents according to ICEA P-32-382, ICEA P-45-482, and protection recommendations in IEEE 242. Demonstrate that equipment withstands the maximum short-circuit current for a time equivalent to the tripping time of the primary relay protection or total clearing time of the fuse. To determine temperatures that damage insulation, use curves from cable manufacturers or from listed standards indicating conductor size and short-circuit current.
- J. Generator Protection: Select protection according to manufacturer's written instructions and to IEEE 242.
- K. Include the ac fault-current decay from induction motors, synchronous motors, and asynchronous generators and apply to low- and medium-voltage, three-phase ac systems. Also account for fault-current dc decrement, to address asymmetrical requirements of interrupting equipment.
- L. Calculate short-circuit momentary and interrupting duties for a three-phase bolted fault and a single line-to-ground fault at each equipment indicated on one-line diagram.
 - 1. For grounded systems, provide a bolted line-to-ground fault-current study for areas as defined for the three-phase bolted fault short-circuit study.
- M. Protective Device Evaluation:
 - 1. Evaluate equipment and protective devices and compare to short-circuit ratings.
 - 2. Adequacy of switchgear, motor-control centers, and panelboard bus bars to withstand short-circuit stresses.
 - 3. Any application of series-rated devices shall be recertified, complying with requirements in NFPA 70.
 - 4. Include in the report identification of any protective device applied outside its capacity.

3.4 LOAD-FLOW AND VOLTAGE-DROP STUDY

- A. Perform a load-flow and voltage-drop study to determine the steady-state loading profile of the system. Analyze power system performance two times as follows:
 - 1. Determine load flow and voltage drop based on full-load currents obtained in "Power System Data" Article.
 - 2. Determine load flow and voltage drop based on 80 percent of the design capacity of load buses.
 - 3. Prepare load-flow and voltage-drop analysis and report to show power system components that are overloaded, or might become overloaded; show bus voltages that are less than as prescribed by NFPA 70.

3.5 MOTOR-STARTING STUDY

- A. Perform a motor-starting study to analyze the transient effect of system's voltage profile during motor starting. Calculate significant motor-starting voltage profiles and analyze the effects of motor starting on the power system stability.

3.6 FIELD ADJUSTING

- A. Adjust relay and protective device settings according to recommended settings provided by the coordination study. Field adjustments shall be completed by the engineering service division of equipment manufacturer under the "Startup and Acceptance Testing" contract portion.
- B. Make minor modifications to equipment as required to accomplish compliance with short-circuit and protective device coordination studies.
- C. Testing and adjusting shall be by a full-time employee of the Field Adjusting Agency, who holds NETA ETT-Certified Technician Level III or NICET Electrical Power Testing Level III certification.
 - 1. Perform each visual and mechanical inspection and electrical test stated in NETA ATS. Certify compliance with test parameters. Perform NETA tests and inspections for all adjustable overcurrent protective devices.

3.7 DEMONSTRATION

- A. Engage Power Systems Analysis Specialist to train Owner's maintenance personnel in the following:
 - 1. Acquaint personnel in fundamentals of operating the power system in normal and emergency modes.
 - 2. Hand-out and explain the coordination study objectives, study descriptions, purpose, basis, and scope. Include case descriptions, definition of terms, and guide for interpreting time-current coordination curves.
 - 3. For Owner's maintenance staff certified as NETA ETT-Certified Technicians Level III or NICET Electrical Power Testing Level III Technicians, teach how to adjust, operate, and maintain overcurrent protective device settings.

END OF SECTION 26 05 73.16

SECTION 26 09 23

LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Central Management System - The System shall utilize a Central Management System that is hosted by the system provider or specified hosting partner location.
2. Backhaul Communication Network - The System shall utilize a Backhaul Communication Network specified by the City and approved by the Vendor.
3. Field Devices.

1.3 ACTION SUBMITTALS

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

1. Include data features, accessories, and finishes.
2. Include physical description and dimensions of devices.
3. Wiring diagrams for power, control, and signal wiring.
4. Light Grid Node devices – remote outdoor wireless control system.
5. Light Grid Gateway – remote monitoring and control, utility grade energy measurement.

- B. Shop Drawings: Show installation details for field devices and control system.

1. Interconnection diagrams showing field-installed wiring.
2. Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For each type of lighting control device to include in operation, and maintenance manuals.

PART 2 - PRODUCTS

2.1 CENTRAL MANAGEMENT SYSTEM

A. Physical Features and Requirements.

1. The Central Management System will display screen images depicting the following features and functions, as applicable:
 - a. Map Data.
 - b. Satellite Image Data.
 - c. Control Point location.
 - d. Control Point equipment type (i.e. luminaire type).
 - e. Controller and Gateway status (i.e. online, online reporting error, offline).
 - f. Luminaire status (On, Off).
 - g. Luminaire Dimmed State.
 - h. Luminaire Location via controller integrated GPS receiver.
2. The Central Management System shall be accessible to individual users only by name and password.
3. The Central Management System shall be capable of restricting user access to specific functions. At a minimum, these functions shall include the following:
 - a. Creating and managing users and groups.
 - b. Configuration.
 - c. Monitoring.
 - d. Control.
 - e. Basic report generation.
4. The Central Management System shall be accessible through a handheld mobile device via a WEB BROWSER.
5. All asset data shall be stored on the Central Management System.
6. The Central Management System shall be capable of storing the following asset information for all Control Points:
 - a. Pole number.
 - b. Pole type.
 - c. Pole GPS location
 - d. Pole grouping.
 - e. Luminaire make and model.
 - f. Luminaire nominal input voltage.
 - g. Luminaire power requirement (wattage).
 - h. Luminaire installation date.
 - i. Utility billing account number.
7. The Central Management System shall store all remote monitoring data for a period needed to operate the system.

B. Logical Features and Requirements

1. The Central Management System shall ensure secure communication between itself and all Field Devices by logically enabling security features inherent to the underlying communications protocols.
2. The Central Management System shall be capable of detecting communication failures between Field Devices and the Central Management System.
3. The Central Management System shall be capable of delivering Field Device firmware upgrades over the Backhaul Communication Network.
4. The Central Management System shall be capable of remotely monitoring Field Device performance, in order to identify and report exceptions.

C. Power Trimming

1. All controllers shall continuously adjust the load consumption with 2% of the user defined target over the full temperature range.
2. All controllers shall utilize a power change ramp rate of 1 second per 1% of total load wattage change.
3. All controllers shall support Lumen Maintenance and Constant Light output over the life of the load (default is L70).

D. Management Features and Requirements

1. The Central Management System shall be capable of RETRIEVING and STORING the following online Control Point parameters:
 - a. Controller status (Online, Offline, Warnings, Errors).
 - b. Luminaire status (ON, OF, Dimmed State, Warnings, Errors).
 - c. Average input voltage (RMS) in ON state.
 - d. Average input current (mA) in ON state.
 - e. Average input power (W) in ON state.
 - f. Average input power factor in ON state.
 - g. Cumulative ON state time (minutes).
 - h. Cumulative energy consumption (kWh).
 - i. Actual GPS location via Controller integrated GPS receiver.
 - j. Temperature.
2. The Central Management System shall be capable programming the online Control Point parameter Reporting Frequency for ALL Control Points.
3. The Central Management System shall be capable of programming the online Control Point parameter Reporting Frequency for A SINGLE Control Point.
4. The Central Management System shall be capable of defining Luminaire groups.
5. The Central Management System shall be capable of Manual Control, whereby the ON/OFF and DIMMED state of a single Luminaire or group of Luminaires is modified in response to commands created by the Central Management System.
6. The Central Management System shall be capable of creating programs for Scheduled Control, whereby the ON/OFF and DIMMED state of a single Luminaire or a group of Luminaires is modified according to a predefined schedule.
7. The Central Management System shall be capable of creating programs for Scheduled Control containing a minimum of 6 times/events per day.

8. The Central Management System shall be capable of creating programs for Scheduled Control that is time-based, whereby Controllers modify Luminaire operation when a specific time in the schedule occurs, or event-based, whereby Controllers modify Luminaire operation when the next event in the schedule occurs.
9. The Central Management System shall be capable of creating programs for time-based Scheduled Control that are defined:
 - a. On a daily recurring basis.
 - b. On a weekday recurring basis.
 - c. On a weekend recurring basis.
10. Field Devices shall be capable of true input power control, whereby the Luminaire DIMMED state is actuated to achieve to a desired true input power (percent relative watts).
11. The Central Management System shall be capable of creating programs for automatically maintaining constant Luminaire light output (lumens) over time by compensating for Luminaire lumen depreciation.
12. The Central Management System shall be capable of comparing all reported Control Point parameters with optional pre-defined maximum and minimum thresholds, and generating error messages in real-time (based on reported data availability) for any condition that violates a specified threshold a specified number (1 or more) of times.
13. The Central Management System shall be capable of creating Remote Monitoring reports:
 - a. Based on the generation of an error message.
 - b. Based on a schedule.
14. The Central Management System shall be capable of creating pre-defined Remote Monitoring reports containing:
 - a. Instances of communication loss between Field Devices and the Central Management System.
 - b. Control points with error conditions, sorted by error type and/or Electrical Service Point location.
 - c. Energy Consumption Data for individual Luminaries and/or groups of Luminaires.
15. The Central Management System shall be capable of creating customized Remote Monitoring reports.
16. The Central Management System shall be capable generating Notifications, whereby specified Remote Monitoring reports (pre-defined or customized) are sent to assigned users and/or user groups via text message (SMS) and/or email.

2.2 FIELD DEVICES

A. Physical Features and Requirements

1. Field Devices shall be capable of normal operation over an ambient temperature range of 40 degrees C to 50 degrees C (cold environment).
2. Field Devices installed external to luminaires shall be rated IP54 and allow any moisture to drain without effecting operation. The Gateway housing shall be rated IP66.

3. Field Devices shall operate from the following input voltage (nominal $\pm 10\%$) 120-277 AC RMS (For LED Post TOP Luminaire and 347V-480V for LED sports lighting).
4. The peak power requirement of will be less than Controller 2W, Gateway 3W.
5. Controllers shall be integrated (mechanically and electrically connected) at Control Points External to Luminaires, using a NEMA C136.41 standard polarized twist-lock receptacle for both electrical and dimming control signal connectivity.
6. Controllers shall be capable of actuating the status (ON state, OFF state) of Luminaires.
7. Controllers shall be capable of actuating a Luminaire OFF state that results in a ZERO watt power requirement for the Luminaire. It is understood that the Controller will require power to remain online.
8. Controllers shall be capable of actuating a Luminaire DIMMED state by creating A 0-10V control signal.
9. Actuated changes to Luminaire DIMMED states by Controllers shall occur at the following rate at a user of 1% change per second.
10. Controllers shall be capable or measuring instantaneous true input power, input voltage (RMS), input current and power factor.
11. True input power, input voltage (RMS), input current and power factor shall be measured, at each Control Point for the combined system of the Luminaire AND the Controller.
12. Each Controller shall be capable physically monitoring or measuring the following parameters:
 - a. Nominal sunrise and sunset times (via integrated photo detector).
 - b. GPS Location (via integrated GPS receiver).
 - c. Temperature.
13. Field Devices shall be capable of logging cumulative hours in the ON state for each Control Point.
14. Field Devices shall be capable of logging cumulative energy consumption at each Control Point.
15. During Offline Operation, Field Devices shall be capable of monitoring and STORING the following offline TIME-STAMPED Control Point parameters:
 - a. Controller status (Online, Offline, Warnings, Errors).
 - b. Luminaire status (ON, OFF, Dimmed State, Warnings, Errors).
 - c. Cumulative ON state time (minutes).
 - d. Cumulative energy consumption (kWh).
16. During Offline Operation Field Devices shall be capable of STORING measurements of voltage, current, power, power factor, energy (KWH) and ON time. Frequency and the number of days to be stored are user configurable.

B. Logical Features and Requirements

1. During Online Operation, Field Devices shall be capable of monitoring and REPORTING the following online Control Point parameters:
 - a. Controller status (Online, Offline, Warnings, Errors).
 - b. Luminaire status (ON, OF, Dimmed State, Warnings, Errors).
 - c. Average input voltage (RMS) in ON state.
 - d. Average input current (mA) in ON state.

- e. Average input power (W) in ON state.
 - f. Average input power factor in ON state.
 - g. Cumulative ON state time (minutes).
 - h. Cumulative energy consumption (kWh).
 - i. Driver status (Warnings, Errors).
 - j. Ambient light (via integrated photoelectric sensor).
 - k. GPS location (via integrate GPS receiver).
 - l. Temperature internal to Controller.
2. Field Devices shall respond to any single command received from the Backhaul Communication Network in less than 60 seconds.
 3. Field Devices shall automatically REPORT all data STORED during Offline Operation once Online Operation is restored.

C. Control Features and Requirements

1. Field Devices shall be capable of controlling a single Luminaire or groups of Luminaires (contactors may be required if total load exceeds 450W).
2. Changes in the ON/OFF or DIMMED states to groups of Luminaires shall be staggered to limit the inrush current through other electrical components (e.g. contactors, relays, circuit breakers) on the Luminaire group electrical circuit.
3. Field Devices shall be capable of Manual Control, whereby the ON/OFF and DIMMED state of a single Luminaire or group of Luminaires is modified in response to commands from the Central Management System.
4. Field Devices shall be capable of Scheduled Control, whereby the ON/OFF and DIMMED state of a single Luminaire or group of Luminaires is modified according to a predefined schedule.
5. Field Devices shall be capable of Scheduled Control that is defined for a minimum of (Instructions: enter appropriate number) times/events per day).
6. Field Devices shall be capable of Scheduled Control that is either time-based, whereby Controllers modify Luminaire operation when a specific time in the schedule occurs, or event-based, whereby Controllers modify Luminaire operation when the next event in the schedule occurs.
7. Field Devices shall be capable of time-based Scheduled Control that is defined:
 - a. On a weekday recurring basis.
 - b. On a weekend recurring basis.
8. Field Devices shall be capable of Adaptive Control, whereby the ON/OFF and DIMMED state of a single Luminaire or a group of Luminaires is modified in response to dynamic inputs from integral sensors or the Central Management System.
9. During Offline Operation Field Devices shall be capable of maintaining Luminaire control by Continuing to operate according to the most recently programmed Scheduled Control or a default Scheduled Control if one has not yet been programmed.
10. Field Devices shall be capable of true input power control, whereby the Luminaire DIMMED state is actuated to achieve to a desired true input power (percent relative watts).

D. Energy Metering and Billing Transfer

1. All controllers shall contain a metrology subsystems that complies to ANSI 12.20 0.5% Metering Accuracy Class.
2. The Control shall in all cases report the combined total of all energy consumed by both the controller and the load.
3. Energy Metering shall start within 3 seconds of power being applied to the controller.
4. Power Outage recovery events shall not result in more than 3 seconds of unmetered energy consumption.
5. The System shall export energy consumption for each controller at a minimum of once every 24 hours.
6. The system shall report that total energy consumption in 15 minute intervals that shall end on the ¼ hour GMT (IE 00:15:30:45).
7. All Data shall be formatted and transferred in accordance to the US DOE Green Button Data Formatting Standard.

E. Wireless Mesh

1. The Wireless Lighting Control System Shall: Utilize Licence free 915 MHz spectrum to minimise interference and increases range compared to 2400 MHz spectrum in all cases provide a wireless connection to all other controllers or gateways within 500 meters free from obstacles.
2. Transmit using a randomly selected channel from a group of a minimum of 50 discrete channels to minimise interference.
3. Comply with all IEEE 802.15.4 PHY communication standard requirements.
4. Comply with all IETF 6 Low PAN communication Standard Requirements.
5. Utilise a self-forming and self-restoring mesh communications protocol.

F. Security

1. All System components shall be assigned a unique permanent serial number by the manufacturer (MAC Address).
2. All System components will only use a system wide unique IPV6 address reference, no dynamic address schemes.
3. All Wireless connection will utilise a unique 128 bit ECC encryption key 256 bit Certificate Authority registered authentication key.
4. All wired connections will utilize a unique 256 bit encryption key and 256 bit Certificate Authority registered authentication key.
5. All encryption & authentication keys will be wirelessly revocable & updateable by the user should they be compromised.

2.3 SOFTWARE

A. Platform Architecture

1. Supports multiple developer frameworks and an ecosystem of application services to build, test, deploy, and scale applications such as: Future Intelligent City Devices such as Gun Shot Detection, Motion Detection, Environmental Monitoring & Analysis, Video Surveillance, Traffic Analysis, Traffic Optimization, Vibration Detection, and Parking Optimization.
2. Availability of a self-service portal where developers can access specialized services intended for use in Industrial Internet applications.

3. Supports Time Series Data Storage.
 4. Supports Blob Data Storage.
 5. Supports Relational Database Storage.
 6. Microservices Based.
 7. Context Based User Interface - Providing right information to the right user at the right time.
 8. Supports Predictive and Operational Analytics.
- B. File and Data Transfer
1. Ability to push data to the cloud by streaming batching or by uploading a file.
- C. Store and Forward
1. Ability to manage intermittent connectivity by collecting and storing data locally and then forwarding to the cloud once connectivity is reestablished.
- D. Local Data Store and Access
1. Capability to store data locally in the intelligent node for local access by say a service technician.
- E. Sensor Data Aggregation
1. Ability to integrate data from multiple sensors and then push an aggregated data gathered from all the sensors to Cloud.
- F. Edge Analytics
1. Capability to run the computational algorithms directly on the data that is streaming of the Intelligent Node.
- G. Certificate Management
1. End-to-end security using certificate management.
- H. Device Positioning
1. Auto registration and provisioning of Intelligent Nodes for further management and software upgrades.
- I. Device Decommissioning
1. Ability to Notify the Cloud/CMS when an Intelligent is offline and no longer needs to be managed.
- J. Configuration Management
1. Ability to remotely configure the Intelligent Node and the track configuration changes over the lifetime of the Node.

2.4 RATED LIFE & RELIABILITY

- A. The rated life of all Field Devices shall be 15 years or more at an ambient temperature of 25 degrees Celsius.
- B. The Vendor shall report the reliability of the Field Devices, as measured by Mean Time between Failures (MTBF) according to Telcordia SR-332.

2.5 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Remote-Control Power Sources: Not smaller than No. 12 AWG. Comply with requirements in Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables".

2.6 COMPONENT WARRANTY

- A. Warranty Period
 - 1. Hardware
 - a. All components shall be covered by a single source written replacement warranty covering material and workmanship for a period of TEN (10) year.
 - 2. Software & Firmware
 - a. All software and firmware shall be covered by a written replacement warranty covering material and workmanship for a period of TWO (2) year.

PART 3 - EXECUTION

3.1 FIELD DEVICE INSTALLATION

- A. Install all field devices required to provide a complete outdoor wireless control system of pedestrian post top luminaires and skate park sports lighting.

3.2 CENTRAL MANAGEMENT INSTALLATION

- A. Install all hardware and software required to provide a complete outdoor wireless control system.

3.3 COMPONENT INSTALLATION

- A. Responsibility
 - 1. All Components shall be installed by the Vendor or their 3rd Party representative.

B. Requirements

1. All hardware, software and firmware necessary for installation, operation and management of all Components shall be provided.

C. Vendor Services

1. ALL Components shall be installed by the Vendor or their 3rd Party representative:
 - a. The Vendor shall provide all pertinent installation and start up instructions and manuals in Portable Document Format (PDF).
 - b. The Vendor or a manufacturer-qualified representative shall provide installation support in person, or Via telephone and/or the internet.
 - c. The Vendor shall provide installation training.
 - d. The Vendor and Resident Engineer shall jointly perform an installation audit.

3.4 WIRING INSTALLATION

- A. Wiring Method: Comply with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables." Minimum conduit size is 1/2 inch (13 mm).
- B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.
- C. Size conductors according to lighting control device manufacturer's written instructions unless otherwise indicated.
- D. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.5 SYTEM START UP

A. Responsibility

1. The System Start up shall be performed by the Vendor in conjunction with the City or their 3rd Party representative and supported by the vendor. REQUIREMENTS:
 - a. The Wireless communications shall be automatically established and optimized without the use of any form of "in field" programing. The use of field programing electronic tools/computes will not be required during the installation. The physical location of each controller shall be automatically transmitted to the CMS without any in field program requirements.
 - b. The System shall be examined for any hardware, software, or firmware incompatibilities or errors that occurred during Installation.
 - c. The Configuration period shall begin immediately following the completion of installation, successful Start-Up, and Successful demonstration of all System functions and capabilities.
 - d. The Configuration period shall include a trial period comprised of 30 consecutive calendar days of System operation. The trial will not start until the system has

reached "substantial completion", been signed off by the Resident Engineer, and has met the specification requirements.

- e. Over the course of the trial period, all System functions and capabilities described during Vendor training shall be successfully demonstrated.
- f. Over the course of the trial period, all System functions and capabilities shall operate normally for at least ninety-eight Percent (98%) of the time.
- g. The Commissioning Period shall end following Resident Engineer acceptance of a successful trial period.

B. Vendor Services

1. Training

- a. The Vendor shall provide comprehensive training at the City's facility, covering (at a minimum), Testing and programming, configuration, administration, operation, and troubleshooting of the system. The contractor shall integrate a review of the User's manual and commissioning materials into City Staff Training.
- b. The Vendor training shall be scheduled based on availability of City's staff.
- c. The Vendor shall provide training manuals and all other documentation (i.e. Operations and Maintenance manuals) in Adobe™ Acrobat format.
- d. The Vendor shall provide all necessary instructional equipment to be used during the training sessions for training purposes.
- e. The Vendor training shall provide instruction using the installed System (not using a remote system or a simulated system), and geared towards new users.
- f. The City may elect to record these training sessions for the City's sole use for future training purposes. The resulting recordings shall be the sole property of the City and for the sole use of the City.
- g. The Vendor shall specify the degree of coordination needed with the City's IT staff in regard to communications with existing systems. The System is Setup and Configured by the Vendor or their 3rd Party. The system setup may require a manufacturer or manufacturer-authorized representative to be available during the testing period.

3.6 IDENTIFICATION

- A. Identify components and power and control wiring according to Section 26 05 53 "Identification for Electrical Systems".
 - 1. Identify controlled circuits wireless field devices controlled with the outdoor lighting control system.
 - 2. Identify circuits or luminaires controlled by photoelectric and occupancy sensors at each sensor.

3.7 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Operational Test: After installing and after electrical circuitry has been energized, start units to confirm proper outdoor wireless lighting control system operation.
 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls field devices, software and equipment.
- B. Lighting control devices will be considered defective if they do not pass tests and inspections.
- C. Prepare test and inspection reports.

3.8 SYSTEM MAINTENANCE

- A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting field devices to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.
1. For daylighting controls, adjust set points and deadband controls to suit the City's operations.
- B. Wireless Control System Maintenance:
1. Responsibility
 - a. The System shall be maintained by the City or their 3rd party contractor.
 2. Vendor Services
 - a. The System will be maintained by the City or their 3rd Party Representative:
 - b. The Vendor shall provide comprehensive maintenance training at the City's facility, covering all aspects of The System.
 - c. The Vendor shall provide hardware and software maintenance and support according to the warranty terms for the duration of the warranty period. Any Maintenance terms shall start following the applicable warranty period.
 - d. The Vendor shall specify any and all mandatory maintenance required to maintain the terms of the warranty.
 - e. Software and firmware upgrades, maintenance and support shall be provided for one year at no extra cost.

END OF SECTION 26 09 23

SUPPLEMENTARY SPECIAL PROVISIONS
APPENDICES

APPENDIX A
NOTICE OF EXEMPTION

NOTICE OF EXEMPTION

(Check one or both)

TO: X Recorder/County Clerk
P.O. Box 1750, MS A-33
1600 Pacific Hwy, Room 260
San Diego, CA 92101-2400

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: Egger/South Bay Comm Pk ADA Improvements

Project No. / WBS No.: S-15031.02.06

Project Location-Specific: The project is bounded by Coronado Avenue to the north, Halo Street to the south, Saturn Boulevard to the east, and 17th Street to the west at 1885 Coronado Avenue, San Diego, CA 92154. It is within the Otay Mesa-Nestor Community Planning Area and Council District 8.

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

Description of nature and purpose of the Project: The project proposes upgrades to an existing park to meet Americans with Disabilities Act (ADA) accessibility requirements, including removing existing and installing new playground equipment, fitness equipment, seating, shade structures, and picnic tables; installing new accessible sidewalks/paths of travel; improving the restrooms; installing new drinking fountains; and adding accessibility site maps and directional signage. Additional park upgrades include replacing the basketball court, installing new landscaping and shade trees, and installing new irrigation and storm drains. Project excavation will range in depth from approximately two to eight feet.

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: Mayra Medel
Email/Phone No.: mmedel@sandiego.gov / (619) 533-4603
525 B Street, Suite 750 (MS 908A), San Diego, CA 92101

Exempt Status:

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269 (b)(c))
- Categorical Exemptions: 15301 [Existing Facilities], 13502 [Replacement or Reconstruction], 15303 [New Construction or Conversion of Small Structures], and 15304 [Minor Alterations to Land]
- Statutory Exemptions:

Reasons why project is exempt: The City of San Diego conducted an environmental review which determined that the project meets the categorical exemption criteria set forth in CEQA State Guidelines, Section 15301 [Existing Facilities], which allows for the operation, repair, maintenance, or minor alteration of existing public structures, facilities and mechanical equipment, involving negligible or no expansion of existing or former use, such as the restroom improvements proposed by the project; 15302 [Replacement or Reconstruction], which allows for the replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, such as the park amenities proposed by the project; 15303 [New Construction or

Conversion of Small Structures], which allows for the construction and location of limited numbers of new, small facilities or structures, such as the new signage, irrigation, and storm drains proposed by the project; 15304 [Minor Alterations to Land], which allows minor public or private alterations in the condition of land, water, and/or vegetation, including the new landscaping and excavation proposed by the project, that does not involve removal of healthy, mature, scenic trees; and where the exceptions listed in Section 15300.2 would not apply.

Lead Agency Contact Person: Mayra Medel

Telephone: (619) 533-4603

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, Interim Deputy Director

9/2/21

Date

Check One:

(X) Signed By Lead Agency

() Signed by Applicant

Date Received for Filing with County Clerk or OPR:

APPENDIX B
FIRE HYDRANT METER PROGRAM

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 1 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

1. **PURPOSE**

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

2. **AUTHORITY**

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

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

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

2.4 California Code of Regulations, Titles 17 and 22

2.5 California State Penal Code, Section 498B.0

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

2.7 Water Department Director

Reference

2.8 State of California Guidance Manual for Cross Connection Programs

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

2.10 American Water Works Association Standards for Water Meters

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

3. **DEFINITIONS**

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

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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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SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 8 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

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.

CITY OF SAN DIEGO CALIFORNIA DEPARTMENT INSTRUCTIONS	NUMBER DI 55.27	DEPARTMENT Water Department
SUBJECT FIRE HYDRANT METER PROGRAM (FORMERLY: CONSTRUCTION METER PROGRAM)	PAGE 9 OF 10	EFFECTIVE DATE October 15, 2002
	SUPERSEDES DI 55.27	DATED April 21, 2000

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	FAC#
DATE	BY

METER SHOP (619) 527-7449

Meter Information

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

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

Company Information

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

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

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

WATER USES WITHOUT ANTICIPATED CHARGES FOR RETURN TO SEWER

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

Note:

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

Date

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

Subject: Discontinuation of Fire Hydrant Meter Service

Dear Water Department Customer:

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

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

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

Sincerely,

Water Department

APPENDIX C

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

MATERIALS TYPICALLY ACCEPTED BY CERTIFICATE OF COMPLIANCE

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

APPENDIX D

SAMPLE CITY INVOICE WITH CASH FLOW FORECAST

City of San Diego, CM&FS Div., 9753 Chesapeake Drive, SD CA 92123

Project Name:

Work Order No or Job Order No.

City Purchase Order No.

Resident Engineer (RE):

RE Phone#: Fax#:

Contractor's Name:

Contractor's Address:

Contractor's Phone #:

Contractor's fax #:

Contact Name:

Invoice No.

Invoice Date:

Billing Period: (To)

Item #	Item Description	Contract Authorization				Previous Totals To Date		This Estimate		Totals to Date	
		Unit	Price	Qty	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount
1					\$ -		\$ -		\$ -	0.00%	\$ -
2					\$ -		\$ -		\$ -	0.00%	\$ -
3					\$ -		\$ -		\$ -	0.00%	\$ -
4					\$ -		\$ -		\$ -	0.00%	\$ -
5					\$ -		\$ -		\$ -	0.00%	\$ -
6					\$ -		\$ -		\$ -	0.00%	\$ -
7					\$ -		\$ -		\$ -	0.00%	\$ -
8					\$ -		\$ -		\$ -	0.00%	\$ -
5					\$ -		\$ -		\$ -	0.00%	\$ -
6					\$ -		\$ -		\$ -	0.00%	\$ -
7					\$ -		\$ -		\$ -	0.00%	\$ -
8					\$ -		\$ -		\$ -	0.00%	\$ -
9					\$ -		\$ -		\$ -	0.00%	\$ -
10					\$ -		\$ -		\$ -	0.00%	\$ -
11					\$ -		\$ -		\$ -	0.00%	\$ -
12					\$ -		\$ -		\$ -	0.00%	\$ -
13					\$ -		\$ -		\$ -	0.00%	\$ -
14					\$ -		\$ -		\$ -	0.00%	\$ -
15					\$ -		\$ -		\$ -	0.00%	\$ -
16					\$ -		\$ -		\$ -	0.00%	\$ -
17	Field Orders				\$ -		\$ -		\$ -	0.00%	\$ -
	CHANGE ORDER No.				\$ -		\$ -		\$ -	0.00%	\$ -
					\$ -		\$ -		\$ -	0.00%	\$ -
	Total Authorized Amount (including approved Change Order)				\$ -		\$ -		\$ -	Total Billed	\$ -

SUMMARY

A. Original Contract Amount	\$ -
B. Approved Change Order #00 Thru #00	\$ -
C. Total Authorized Amount (A+B)	\$ -
D. Total Billed to Date	\$ -
E. Less Total Retention (5% of D)	\$ -
F. Less Total Previous Payments	\$ -
G. Payment Due Less Retention	\$0.00
H. Remaining Authorized Amount	\$0.00

I certify that the materials
have been received by me in
the quality and quantity specified

Resident Engineer

Construction Engineer

Retention and/or Escrow Payment Schedule

Total Retention Required as of this billing (Item E)	\$0.00
Previous Retention Withheld in PO or in Escrow	\$0.00
Add'l Amt to Withhold in PO/Transfer in Escrow:	\$0.00
Amt to Release to Contractor from PO/Escrow:	

Contractor Signature and Date: _____

NOTE: CONTRACTOR TO CALCULATE TO THE 2ND DECIMAL PLACE.

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

Construction Cash Flow Forecast
 "Sewer and Water Group Job 965 (W)"

Year	January	February	March	April	May	June	July	August	September	October	November	December
2018				15,000	25,000	52,000	52,000	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												

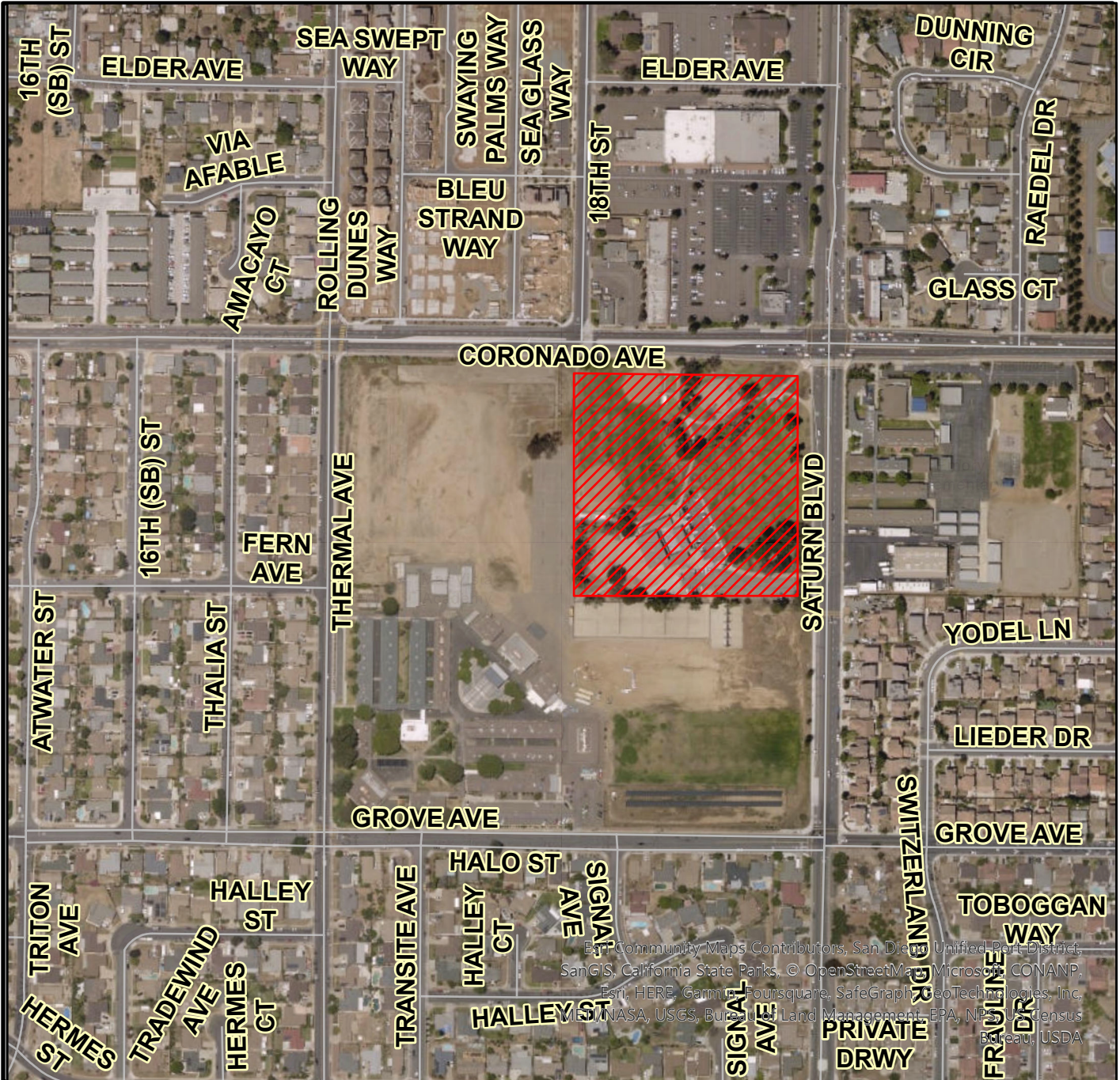
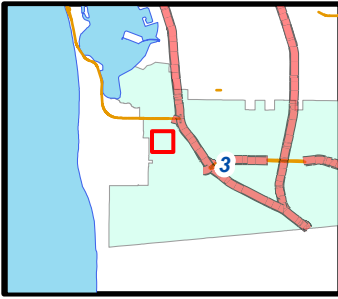
SAMPLE REFERENCE

APPENDIX E
LOCATION MAP


**EGGER SOUTH BAY COMMUNITY PARK
ADA IMPROVEMENTS**

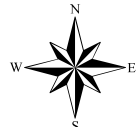
PROJECT ENGINEER: DARREN GENOVA
 PROJECT MANAGER: FRANCIS MARQUEZ
 PROJECT ENGINEER: SHANG AHMAD

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



Legend

 Egger South Bay Community Park ADA Improvements



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APPENDIX F

CONTRACTOR'S DAILY QUALITY CONTROL INSPECTION REPORT

Appendix F

City of San Diego
Asphalt Concrete Overlay
Contractor's Daily Quality Control Inspection Report

Project Title: _____ Date: _____

Locations: 1. _____
2. _____
3. _____

Asphalt Mix Specification: Attached Supplier: _____

Dig out Locations: 1. _____
2. _____
3. _____

Tack Coat Application Rate @ Locations:
1. _____
2. _____
3. _____

Asphalt Temperature at Placement @ Locations:
1. _____
2. _____
3. _____

Asphalt Depth @Locations:
1. _____
2. _____
3. _____

Compaction Test Result @Locations:
1. _____
2. _____
3. _____

APPENDIX G
SAMPLE OF PUBLIC NOTICE

FOR SAMPLE REFERENCE ONLY



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

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Work on your street will begin within one week to replace the existing water mains servicing your community.

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- Parking restrictions will exist because of the presence of construction equipment and materials.
- "No Parking" signs will be displayed 72 hours in advance of the work.
- Cars parked in violation of signs will be TOWED.


Hours and Days of Operation:

Monday through Friday X:XX AM to X:XX PM.


City of San Diego Contractor:

Company Name, XXX-XXX-XXXX

To contact the City of San Diego:  Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP

 This information is available in alternative formats upon request.
Egger South Bay Community Park
Bid No.: K-23-2191-DBB-3

To contact the City of San Diego:  Public Works
619-533-4207 | engineering@sandiego.gov | sandiego.gov/CIP

 This information is available in alternative formats upon request.

APPENDIX H

ADVANCED METERING INFRASTRUCTURE (AMI) DEVICE PROTECTION

Protecting AMI Devices in Meter Boxes and on Street Lights

The Public Utilities Department (PUD) has begun the installation of the Advanced Metering Infrastructure (AMI) technology as a new tool to enhance water meter reading accuracy and efficiency, customer service and billing, and to be used by individual accounts to better manage the efficient use of water. **All AMI devices shall be protected per Section 402-2, "Protection", of the 2021 Whitebook.**

AMI technology allows water meters to be read electronically rather than through direct visual inspection by PUD field staff. This will assist PUD staff and customers in managing unusual consumption patterns which could indicate leaks or meter tampering on a customer's property.

Three of the main components of an AMI system are the:

- A. Endpoints, see Photo 1:

Photo 1



B. AMI Antenna attached to Endpoint (antenna not always required), see Photo 2:



Network Devices, see Photo 3:

Photo 3



AMI endpoints transmit meter information to the AMI system and will soon be on the vast majority of meters in San Diego. These AMI devices provide interval consumption data to the PUD's Customer Support Division. If these devices are damaged or communication is interrupted, this Division will be alerted of the situation. The endpoints are installed in water meter boxes, coffins, and vaults adjacent to the meter. A separate flat round antenna may also be installed through the meter box lid. This antenna is connected to the endpoint via cable. The following proper installation shall be implemented when removing the lid to avoid damaging the antenna, cable, and/or endpoint. Photo 4 below demonstrates a diagram of the connection:

Photo 4



The AMI device ERT/Endpoint/Transmitter shall be positioned and installed as discussed in this Appendix. If the ERT/Endpoint/Transmitter is disturbed, it shall be re-installed and returned to its original installation with the end points pointed upwards as shown below in Photo 5.

The PUD's code compliance staff will issue citations and invoices to you for any damaged AMI devices that are not re-installed as discussed in the Contract Document

Photo 5 below shows a typical installation of an AMI endpoint on a water meter.

Photo 5

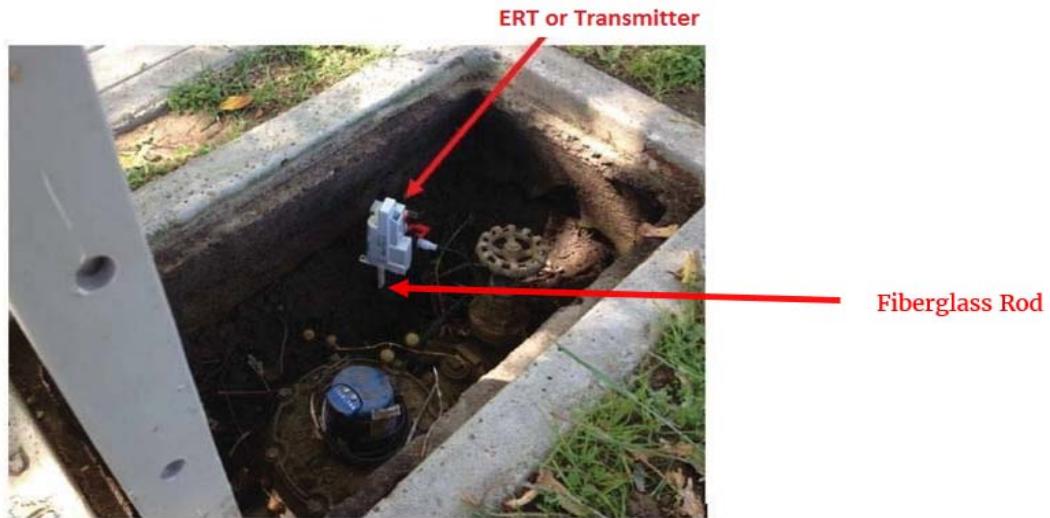


Photo 6 below is an example of disturbance that shall be avoided:

Photo 6



You are responsible when working in and around meter boxes. If you encounter these endpoints, use proper care and do not disconnect them from the registers on top of the water meter. If the lid has an antenna drilled through, do not change or tamper with the lid and inform the Resident Engineer immediately about the location of that lid. Refer to Photo 7 below:

Photo 7



Another component of the AMI system are the Network Devices. The Network Devices are strategically placed units (mainly on street light poles) that collect interval meter reading data from multiple meters for transmission to the Department Control Computer. **If you come across any of these devices on street lights that will be removed or replaced (refer to Photos 8 and 9 below), notify AMI Project Manager Arwa Sayed at (619) 362-0121 immediately.**

Photo 8 shows an installed network device on a street light. On the back of each Network Device is a sticker with contact information. See Photo 9. **Call PUD Water Emergency Repairs at 619-515-3525 if your work will impact these street lights.** These are assets that belong to the City of San Diego and you shall be responsible for any costs of disruption of this network.

Photo 8



Network Device

Photo 9



If you encounter any bad installations, disconnected/broken/buried endpoints, or inadvertently damage any AMI devices or cables, notify the Resident Engineer immediately. The Resident Engineer will then immediately contact the AMI Project Manager, Arwa Sayed, at (619) 362-0121.

APPENDIX I

SWPPP CONSTRUCTION BMP MAINTENANCE LOG

SWPPP Construction BMP Maintenance Log

Examples of construction BMP maintenance activities include but are not limited to tasks listed below. The contractor is ultimately responsible for compliance with the Storm Water Standards Manual and/or the Construction General Permit, and for ensuring all BMPs function per manufacturer's specifications. Use the attached log to schedule and document maintenance activities. The log shall be kept with the project SWPPP document at all times.

Construction BMP Maintenance Activities

- Maintain stabilized construction entrances/exits
- Redress gravel/rock to full coverage and remove any sediment accumulation
- Remove and replace geotextile/compost blanket/plastic with holes or tears
- Redress and restabilize erosion or rilling greater than 1-inch deep
- Reapply hydraulic stabilization products to full coverage
- Remove and replace silt fence/fiber roll/gravel bags/etc. with holes or tears
- Reinstall or replace silt fence/fiber roll/etc. with sags
- Remove sediment accumulation from perimeter controls
- Remove sediment accumulation from storm drain inlet protection and check dams
- Remove sediment accumulation from energy dissipators
- Repair or remove any vehicle/equipment that leaks
- Remove any accumulation in drip pans or containment
- Empty concrete washouts when they reach 75% capacity
- Empty waste disposal containers when they reach 95% capacity

Construction BMP Maintenance Log

Project Title:

WBS/IO No:

WDID:

Scheduled Date/Time	Completion Date/Time	Location	Maintenance Tasks Performed	Logged By

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 De La Fuente Construction, Inc., herein called "Contractor" for construction of **Egger South Bay Community Park**; Bid No. **K-23-2191-DBB-3**; in the total amount of Four Million Two Hundred Forty Two Thousand Two Hundred Seventy One Dollars and Zero Cents (\$4,242,271.00).

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

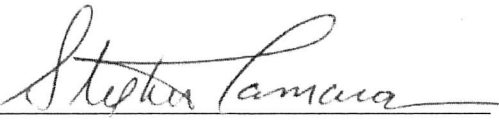
1. The following are incorporated into this contract as though fully set forth herein:
 - (a) The attached Faithful Performance and Payment Bonds.
 - (b) The attached Proposal included in the Bid documents by the Contractor.
 - (c) Reference Standards listed in the Instruction to Bidders and the Supplementary Special Provisions (SSP).
 - (d) That certain documents entitled **Egger South Bay Community Park**, on file in the office of the Purchasing & Contracting Department as Document No. **S-15031**, 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, **Egger South Bay Community Park**, Bid Number **K-23-2191-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 or Municipal Code 22.3102 authorizing such execution.

THE CITY OF SAN DIEGO

APPROVED AS TO FORM

By 

Mara W. Elliott, City Attorney
By 


Print Name: Stephen Samara
Principal Contract Specialist
Purchasing & Contracting Department

Print Name: Dominic Guglielmo
Deputy City Attorney

Date: 11/7/2023

Date: 11/17/23

CONTRACTOR

DocuSigned by:
By 
F7ACE5F4B668486..

Print Name: Jorge Diaz De La Fuente

Title: President

Date: 9/27/2023 | 09:44 PDT

City of San Diego License No.: B2010035758

State Contractor's License No.: 919666

DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION NUMBER: 1000043346

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:

_____ **Egger South Bay Community Park** _____
(Project Title)

as particularly described in said contract and identified as Bid No. **K-23-2191-DBB-3**; SAP No. (WBS) **S-15031**; 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	CONSTRUCTOR OR DESIGNER	SUBCONTRACTOR LICENSE NUMBER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB®	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 | MBE | Certified Woman Business Enterprise | WBE |
| Certified Disadvantaged Business Enterprise | DBE | Certified Disabled Veteran Business Enterprise | DVBE |
| Other Business Enterprise | OBE | Certified Emerging Local Business Enterprise | ELBE |
| Certified Small Local Business Enterprise | SLBE | Small Disadvantaged Business | SDB |
| Woman-Owned Small Business | WoSB | HUBZone Business | HUBZone |
| Service-Disabled Veteran Owned Small Business | SDVOSB | | |
- ② As appropriate, Bidder shall indicate if Subcontractor is certified by:
- | | | | |
|--|--------|--|----------|
| City of San Diego | CITY | State of California Department of Transportation | CALTRANS |
| California Public Utilities Commission | CPUC | | |
| State of California's Department of General Services | CADoGS | City of Los Angeles | LA |
| State of California | CA | U.S. Small Business Administration | SBA |

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

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 | | |
| State of California's Department of General Services | CADoGS | City of Los Angeles | LA |
| State of California | CA | U.S. Small Business Administration | SBA |

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

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 (PRIME CONTRACTOR)**
- E. DEBARMENT AND SUSPENSION CERTIFICATION (SUBCONTRACTORS/SUPPLIERS/MANUFACTURERS)**
- F. DISCLOSURE OF LOBBYING ACTIVITIES**

BID BOND

**See Instructions to Bidders, Bidder Guarantee of Good Faith
(Bid Security)**

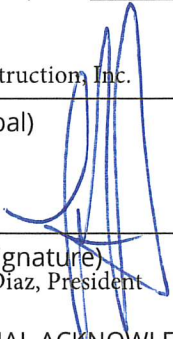
KNOW ALL MEN BY THESE PRESENTS,

That De La Fuente Construction, Inc. as Principal,
and Markel 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
Egger South Bay Community Park

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 27th day of July, 2023

De La Fuente Construction, Inc. (SEAL)
(Principal)
By:  (Signature)
Jorge Diaz, President

Markel Insurance Company (SEAL)
(Surety)
By:  (Signature)
Alexander Karaniwan, Attorney-in-Fact

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

JOINT LIMITED POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That SureTec Insurance Company, a Corporation duly organized and existing under the laws of the State of Texas and having its principal office in the County of Harris, Texas and Markel Insurance Company (the "Company"), a corporation duly organized and existing under the laws of the state of Illinois, and having its principal administrative office in Glen Allen, Virginia, does by these presents make, constitute and appoint:

William Ray Bodensadt, Travis Jon Pearson, Kyle King, Hannah McGarvey, Alexander Karaniwan

Their true and lawful agent(s) and attorney(s)-in-fact, each in their separate capacity if more than one is named above, to make, execute, seal and deliver for and on their own behalf, individually as a surety or jointly, as co-sureties, and as their act and deed any and all bonds and other undertaking in suretyship provided, however, that the penal sum of any one such instrument executed hereunder shall not exceed the sum of:

Thirty Million and 00/100 Dollars (\$30,000,000.00)

This Power of Attorney is granted and is signed and sealed under and by the authority of the following Resolutions adopted by the Board of Directors of SureTec Insurance Company and Markel Insurance Company:

"RESOLVED, That the President, any Senior Vice President, Vice President, Assistant Vice President, Secretary, Assistant Secretary, Treasurer or Assistant Treasurer and each of them hereby is authorized to execute powers of attorney, and such authority can be executed by use of facsimile signature, which may be attested or acknowledged by any officer or attorney, of the company, qualifying the attorney or attorneys named in the given power of attorney, to execute in behalf of, and acknowledge as the act and deed of the SureTec Insurance Company and Markel Insurance Company, as the case may be, all bond undertakings and contracts of suretyship, and to affix the corporate seal thereto."

IN WITNESS WHEREOF, Markel Insurance Company and SureTec Insurance Company have caused their official seal to be hereunto affixed and these presents to be signed by their duly authorized officers on the 27th day of January, 2023.

SureTec Insurance Company

By: [Signature]
Michael C. Keimig, President



Markel Insurance Company

By: [Signature]
Lindey Jennings, Vice President

State of Texas
County of Harris:

On this 27th day of January, 2023 A. D., before me, a Notary Public of the State of Texas, in and for the County of Harris, duly commissioned and qualified, came THE ABOVE OFFICERS OF THE COMPANIES, to me personally known to be the individuals and officers described in, who executed the preceding instrument, and they acknowledged the execution of same, and being by me duly sworn, disposed and said that they are the officers of the said companies aforesaid, and that the seals affixed to the proceeding instrument are the Corporate Seals of said Companies, and the said Corporate Seals and their signatures as officers were duly affixed and subscribed to the said instrument by the authority and direction of the said companies, and that Resolutions adopted by the Board of Directors of said Companies referred to in the preceding instrument is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand, and affixed my Official Seal at the County of Harris, the day and year first above written.



By: [Signature]
Julie E. McClary, Notary Public
My commission expires 3/29/2026

We, the undersigned Officers of SureTec Insurance Company and Markel Insurance Company do hereby certify that the original POWER OF ATTORNEY of which the foregoing is a full, true and correct copy is still in full force and effect and has not been revoked.

IN WITNESS WHEREOF, we have hereunto set our hands, and affixed the Seals of said Companies, on the 27th day of July, 2023.

SureTec Insurance Company

By: [Signature]
M. Brent Beaty, Assistant Secretary

Markel Insurance Company

By: [Signature]
Andrew Marquis, Assistant Secretary

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 JUL 27 2023 before me, Grant Jacka, Notary Public,
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Alexander Karaniwan
Name(s) of Signer(s)



who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Witness my hand and official seal.

Signature [Handwritten Signature]
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

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

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

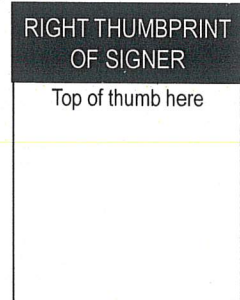
- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer is Representing: _____

Signer's Name: _____

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



Signer is Representing: _____

CONTRACTOR'S CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

CHECK ONE BOX ONLY.

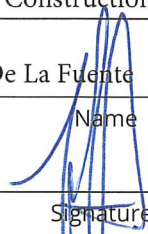
- The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.

- The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

DATE OF CLAIM	LOCATION	DESCRIPTION OF CLAIM	LITIGATION (Y/N)	STATUS	RESOLUTION/REMEDIAL ACTION TAKEN

Contractor Name: De La Fuente Construction Inc.

Certified By Jorge Diaz De La Fuente Title President
Name

 Date 08/04/2023
Signature

USE ADDITIONAL FORMS AS NECESSARY

Mandatory Disclosure of Business Interests Form

BIDDER/PROPOSER INFORMATION

Legal Name		DBA	
De La Fuente Construction Inc.			
Street Address	City	State	Zip
3025 Beyer Blvd Suite E-101,	San Diego	CA	92154
Contact Person, Title		Phone	Fax
Jorge Diaz De La Fuente		619-512-5505	619-878-2980

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
Carolina Bernal	Estimating
City and State of Residence	Employer (if different than Bidder/Proposer)
San Diego, CA	
Interest in the transaction	
0%	

Name	Title/Position
Hector Ojeda	Bid Coordinator
City and State of Residence	Employer (if different than Bidder/Proposer)
San Diego, CA	
Interest in the transaction	
0%	

* 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.

Jorge Diaz De La Fuente, President

08/04/2023

Print Name, Title

Signature

Date

Failure to sign and submit this form with the bid/proposal shall make the bid/proposal non-responsive. In the case of an informal solicitation, the contract will not be awarded unless a signed and completed Mandatory Disclosure of Business Interests Form is submitted.

DEBARMENT AND SUSPENSION CERTIFICATION

PRIME CONTRACTOR

FAILURE TO COMPLETE AND SUBMIT AT TIME OF BID SHALL RENDER BID NON-RESPONSIVE

EFFECT OF DEBARMENT OR SUSPENSION
To promote integrity in the City's contracting processes and to protect the public interest, the City shall only enter into contracts with responsible bidders and contractors. In accordance with San Diego Municipal Code §22.0814 (a): <i>Bidders and contractors</i> who have been <i>debarred</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> , employee, agent or representative of another <i>person</i> contracting with the City.

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of Names of the Principal Individual owner(s).

The names of all persons interested in the foregoing proposal as Principals are as follows:

NAME	TITLE
Jorge Diaz De La Fuente	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.

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: De La Fuente Construction Inc.

Certified By Jorge Diaz De La Fuente Title President

Name

[Signature] Date 08/04/2023

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
William Hall	President
Bonnie Payne	Vice President

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

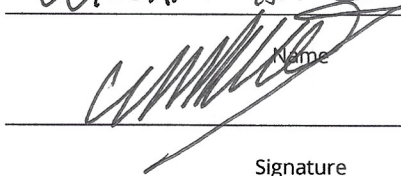
NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Golden Triangle Land Surveying Inc.

Certified By William Hall Title President

 Name _____ Date 8/9/23

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
Paul Ferandell	VPres
E Elaine Ferandell	Pres.

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Ferandell Tennis Courts, Inc.

Certified By Paul Ferandell Title VPres

Name

Paul Ferandell VP

Date 8/8/2023

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
Bryan Grant	President

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: DLG Contractors Inc.

Certified By Bryan Grant Title President

Name

 _____ Date 08-07-2023

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
Makelele Systems Landscape & Maintenance, Inc.	Jose Cardenas, President

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
N/A	

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
N/A	

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
N/A	

Contractor Name: Makelele Systems Landscape & Maintenance, Inc.

Certified By Jose Cardenas Title President


 Name _____
 Signature _____ Date 08 August 2023

Makelele Systems Landscape & Maintenance, Inc.
 760.208.8749 * CA. License No. 987557 * QAL No. 145564 (B + C)
 SOS Entity No. C3675404 * DIR No. 1000028415
 City of SD SLBE No. 14MS1248 * SB (Micro - CA DGS) Cert No. 2012569
 City of San Diego Business Tax Certificate No. B2015030954
 Mailing Address: PO Box 2044, San Marcos, California 92079
 makelele@makelelesystems.com

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

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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Robert Perez	President

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: RAP Engineering LLC

Certified By Steven Whitlock Title Project Manager

Name

Steven Whitlock Date 08/07/2023

Signature

USE ADDITIONAL FORMS AS NECESSARY*

DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Robertson Industries, Inc-Playcore Wisconsin- Corp. Owned-William Stafford	GM

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
All Materials -Out of Stock	

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Robertson Industries, Inc

Certified By Bill Stafford Title GM

Name

William Stafford Date 6/22/23

Signature

USE ADDITIONAL FORMS AS NECESSARY*

DEBARMENT AND SUSPENSION CERTIFICATION
SUBCONTRACTORS, SUPPLIERS AND MANUFACTURERS
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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
ANTHONY BUESCHER	PRESIDENT

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: BUESCHER ELECTRIC INC
DBA SERVICE ELECTRICAL SYSTEMS

Certified By ANTHONY BUESCHER Title PRESIDENT

Name

Date 8/7/2023

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

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Please indicate if principal owner is serving in the capacity of **subcontractor**, **supplier**, and/or **manufacturer**:

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE
Steve Tadlock	RME

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

SUBCONTRACTOR SUPPLIER MANUFACTURER

NAME	TITLE

Contractor Name: Anton's Service, Inc.

Certified By Steve Tadlock Title RME


 Name
 Signature

Date 8 Aug 2023

USE ADDITIONAL FORMS AS NECESSARY*

DISCLOSURE OF LOBBYING ACTIVITIES Approved by OMB
 Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
 (See reverse for public burden disclosure)

0348-0046

1. Type of Federal Action: N/A <input type="checkbox"/> a. Contract a. Grant b. Cooperative agreement c. Loan d. Loan guarantee e. Loan insurance	2. Status of Federal Action: N/A <input type="checkbox"/> a. bid/offer/application b. initial award c. post-award	3. Report Type: N/A <input type="checkbox"/> a. initial finding b. material change For Material Change Only year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: N/A <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known: Congressional District, if known:	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: N/A Congressional District, if known:	
6. Federal Department/Agency: N/A	7. Federal Program Name/Description: N/A CFDA Number, if applicable: _____	
8. Federal Action Number, if known: N/A	9. Award Amount, if known: N/A \$	
10. a. Name and Address of Lobbying Entity N/A (if individual, last name, first name, M) (attach Continuation Sheet(s) SF-LLL4, if necessary)	b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI): N/A	
11. Amount of Payment (check all that apply) N/A \$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned	13. Type of Payment (check all that apply) N/A <input type="checkbox"/> a. retainer <input type="checkbox"/> b. one-time fee <input type="checkbox"/> c. commission <input type="checkbox"/> d. contingent fee <input type="checkbox"/> e. deferral <input type="checkbox"/> f. other: specify: _____	
12. Form of Payment (check all that apply) N/A <input type="checkbox"/> a, cash <input type="checkbox"/> b. in-kind: specify: nature _____ Value _____		
14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employee(s), or Member(s), contacted, for Payment indicated in item 11: N/A (attach Continuation Sheet(s) SF-LLLA, if necessary)		
15. Continuation Sheet(s) SF-LLLA attached: <input type="checkbox"/> Yes <input type="checkbox"/> No N/A		
16. Information requested through this for misauthorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: _____ Print Name: <u>Jorge Diaz De La Fuente</u> Title: <u>President</u> Telephone No.: <u>619-512-5505</u> Date: <u>08/04/2023</u>	
Federal Use Only: Authorized for Local Reproduction Standard Form LLL (Rev. 7-07)		

Bid Results

Bidder Details

Vendor Name De La Fuente Construction, Inc.
Address 3025 Beyer Blvd Suite E-101
San Diego, California 92154
United States
Respondee Jorge Diaz De La Fuente
Respondee Title President
Phone 619-512-5505
Email estimating@dlfci.com
Vendor Type MBE, CADIR, SDB, PQUAL, MALE, LAT
License # 919666
CADIR 1000043346

Bid Detail

Bid Format Electronic
Submitted 08/08/2023 1:33 PM (PDT)
Delivery Method
Bid Responsive
Bid Status Submitted
Confirmation # 336660

Respondee Comment

Buyer Comment

Attachments

File Title	File Name	File Type
Contractors-Certification-of-Pending-Actions.pdf	Contractors-Certification-of-Pending-Actions.pdf	CONTRACTERS CERT OF PENDING ACTIONS
Mandatory-Disclosure-of-Business-Interests-Form.pdf	Mandatory-Disclosure-of-Business-Interests-Form.pdf	MANDATORY DISCLOSURE OF BUSINESS INTERESTS FORM
D&S-Prime-Contractor.pdf	D&S-Prime-Contractor.pdf	DEBARMENT AND SUSPENSION CERTIFICATION (PRIME CONTRACTOR)
D&S-Subcontractors-02.pdf	D&S-Subcontractors-02.pdf	DEBARMENT AND SUSPENSION CERTIFICATION (SUBCONTRACTORS/SUPPLIERS/MANUFACTURERS)
Disclosure-of-Lobbying-Activities.pdf	Disclosure-of-Lobbying-Activities.pdf	DISCLOSURE OF LOBBYING ACTIVITIES
Bid-Bond.pdf	Bid-Bond.pdf	Bid Bond

Subcontractors

Showing 8 Subcontractors

Name & Address	Desc	License Num	CADIR	Amount	Type
Anton's Service, Inc. 8865 Winter Gardens Blvd Lakeside, California 92040	Constructor - Playground, shades & fitness equipment installation	861069	1000002533	\$109,374.00	SDB, CAU, MALE, Local
DLG Contractors Inc. 10911 Wheatlands Ave. Suite J Santee, California 92071	Constructor - Supply and install toilet accessories and site furnishings	988588	1000003891	\$60,300.00	SDB, CADIR, ELBE, PQUAL, MALE, LAT, Local
Ferandell Tennis Courts, Inc. 3216 Grey Hawk Court Carlsbad, California 92010	Constructor - Surface/Stripe Basketball Court	603945	1000004786	\$20,000.00	CADIR, ELBE, Local
Golden Triangle Land Surveying, Inc 1298 Navel Place Vista, California 92081	Constructor - Surveyor	6788	1000015071	\$19,250.00	ELBE, Local
Makelele Systems Landscape & Mai 420 N Twin Oaks Valley Road #2044 Makelele Systems San Marcos, California 92079	Constructor - Landscaping	987557	1000028415	\$306,540.00	MBE, CADIR, MALE, LAT, Local
RAP Engineering, Inc. 503 E. Mission Road San Marcos, California 92069	Constructor - Asphalt Paving	880956	1000002968	\$87,507.71	DBE, MBE, CADIR, MALE, LAT, Local
Robertson Recreational Surfaces 2414 West 12th Street, Suite 5 Tempe, Arizona 85281	Constructor - Rubberized Surfacing	667261	1000002700	\$534,115.53	
Service Electrical Systems 157 Palm Avenue Imperial Beach, California 91932	Constructor - Electrical	917219	1000006809	\$299,098.00	DVBE, CADIR, ELBE, SDVSB, Local

Line Items

Discount Terms No Discount

Item #	Item Code	Type	Item Description	UOM	QTY	Unit Price	Line Total	Response	Comment
Main Bid							\$4,242,271.00		
1	524126		Bonds (Payment and Performance)	LS	1	\$57,465.00	\$57,465.00	Yes	
2	236220		Building Permits (EOC Type I)	AL	1	\$15,000.00	\$15,000.00	Yes	
3	238990		Specialty Inspection Paid For By the Contractor (EOC Type I)	AL	1	\$15,000.00	\$15,000.00	Yes	
4	238990		Construction of Playground, Fitness Station, Multi-purpose Court, and All Associated Work and Other Improvements	LS	1	\$3,856,706.00	\$3,856,706.00	Yes	
5	238990		Mobilization	LS	1	\$69,000.00	\$69,000.00	Yes	
6			Field Orders (EOC Type II)	AL	1	\$170,000.00	\$170,000.00	Yes	
7	238210		SDG&E Fee Allowance (EOC Type I)	AL	1	\$30,000.00	\$30,000.00	Yes	
8	541330		SWPPP Development	LS	1	\$1,700.00	\$1,700.00	Yes	
9	237310		SWPPP Implementation	LS	1	\$12,400.00	\$12,400.00	Yes	
10	541330		SWPPP Permit Fee (EOC Type I)	AL	1	\$15,000.00	\$15,000.00	Yes	

Line Item Subtotals

Section Title	Line Total
Main Bid	\$4,242,271.00
Grand Total	\$4,242,271.00