

CITY OF SAN BRUNO



Public Works Department
City of San Bruno
567 El Camino Real
San Bruno, CA 94066

PROJECT SPECIFICATIONS

SAN BRUNO CORPORATION YARD EV CHARGER PROJECT PHASE 2

Project No. 51035

Advertisement Date: Monday, March 9, 2026

**Pre-Bid Conference: Tuesday, March 17, 2026 Time: 2PM PDT
(Non-Mandatory)**

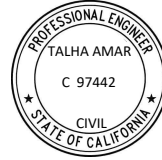
Bid Opening: Wednesday, March 25, 2026 Time: 3PM PDT

DOCUMENT 00 01 07

SEALS PAGE

Prepared By:

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Talha Amar, P.E. 03/06/2026
Civil Engineer
City of San Bruno

Civil Engineer No. **97442**
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City Representative:

DocuSigned by:
Hae Won Ritchie
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Hae Won Ritchie, P.E. 03/06/2026
City Engineer/Deputy Director of Public Works
City of San Bruno

DOCUMENT 00 01 10

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-END OF DOCUMENT-

DOCUMENT 00 10 00

CITY OF SAN BRUNO
San Mateo County, California

NOTICE INVITING SEALED BID PROPOSALS FOR
SAN BRUNO CORPORATION YARD EV CHARGERS PHASE 2
Project No. 51035

1. **NOTICE:** The City of San Bruno (the "City") will receive sealed bids on the proposal forms furnished by the City and in accordance with the plans and specifications on or before **Wednesday, March 25, 2026 at 3PM PDT** by the Office of the City Clerk, located at 567 El Camino Real, San Bruno, California 94066, for the following public work:
2. **PROJECT DESCRIPTION:**
The work includes, but is not limited to the installation of nine new electric vehicle charging stations and associated electrical equipment.
All work items shall be constructed in accordance with the contract plans and specifications. Bidding Documents contain the full description of the Work.
3. **STATEMENT OF QUALIFICATIONS:** Each Bidder shall be required to submit, in accordance with Document 00 21 00 (Instructions to Bidders) and Document 00 45 13 (Statement of Qualifications (SOQ) for Construction Work), a Statement of Qualifications.
4. **CONTRACT TIME:** All work under this contract shall be completed within **21 Working Days** from the Notice to Proceed effective date. The City shall assess liquidated damages in the amount of **\$750 per Working Days** for delays in completion of the project, as provided in the Contract Documents.
5. **REQUIRED CONTRACTOR'S LICENSE(S):** A California Class "**A**" contractor's license is required to bid on this contract. Joint ventures must secure a joint venture license prior to award of this Contract.
6. **NON-MANDATORY PRE-BID CONFERENCE:** The City will conduct a non-mandatory Pre-Bid Conference on **Tuesday, March 17, 2PM PDT** in person. Please RSVP to 650-616-7065. The Pre-Bid Conference is estimated to last approximately one hour.
7. **PROCUREMENT OF BIDDING DOCUMENTS:** Bidders may obtain bidding documents electronically from the Public Works Department bidding website (<https://www.sanbruno.ca.gov/Bids.aspx>). Physical copies may be obtained directly from Barker Blue. For information pertaining to the bidding documents, please contact Barker Blue at (866) 347-1011.

8. **INSTRUCTIONS:** Bidders shall refer to Document 00 21 00 (Instructions to Bidders) for required documents and items to be submitted in sealed envelopes for deposit at the Office of the City Clerk, 567 El Camino Real, San Bruno, California 94066, no later than the time and date set forth in Paragraph 1 above.
9. **BID SECURITY:** Cash, cashier's check or certified check, payable to the order of the City of San Bruno, of not less than ten percent (10%) of the bid, or a bond in said amount payable to the City of San Bruno and signed by the Bidder and a corporate surety shall accompany the bid.
10. **BID PREPARATION COST:** Bidders are solely responsible for the cost of preparing their bids.
11. **SUBSTITUTION OF SECURITIES:** The City will permit the successful bidder to substitute securities for any retention monies withheld to ensure performance of the contract, as set forth in Document 00 61 16 (Escrow Agreement For Security Deposits In Lieu Of Retention) and fully incorporated herein, in accordance with Section 22300 of the California Public Contract Code.
12. **PREVAILING WAGE LAWS:** The successful bidder must comply with all prevailing wage laws applicable to the project, and related requirements contained in the contract documents.
 - a. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
 - b. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.
 - c. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.
13. **SUBSTITUTIONS:** Bidders must base their bids on products and systems specified in the contract documents or listed by name in the addenda. Except as provided below, the City will consider substitution requests only for "or approved equal items." Bidders wanting to use "or approved equal items" may submit Document 00 43 25 (Substitution Request Form) no later than 7 days after the issuance of the Notice of Award. There shall be no substitution of any equipment with a vendor part number on the drawings without written approval from McCalmont Engineering.
14. **RESERVATION OF RIGHTS:** The City specifically reserves the right, in its sole discretion, to reject any or all bids, to re-bid, or to waive inconsequential defects or minor irregularities in the bids not involving time, price or quality of the work.
15. **QUESTIONS** regarding the Project Plans or Specifications, bid process, and contractual issues may be directed to Ana Morales, Management Analyst, at (650) 616-7065. Final day to submit questions is **Thursday, March 19, 2026 by 11:59 PM PDT.**

-END OF DOCUMENT-

DOCUMENT 00 21 00

INSTRUCTIONS TO BIDDERS

1. RECEIPT OF BIDS

Sealed bid proposals will be received by City of San Bruno at the Office of the City Clerk, located at 567 El Camino Real, San Bruno, California, no later than **Wednesday, March 25, 2026 at TIME 3PM PDT**. **The bid proposal shall be in two opaque sealed 10" x 13" envelopes labeled Bid Proposal, San Bruno Corporation Yard EV Chargers Phase 2, Project No. 51035, Envelope "A" and Envelope "B" containing the following documents:**

Envelope A – Bid Submittals

- 1) **00 41 00** Bid Proposal (Notarized)
- 2) **00 41 70** Addenda Acknowledgement
- 3) **00 43 13** Proposal Guarantee (Bid Bond), Cash, Cashier's or Certified Check
- 4) **00 43 36** Subcontractor List
- 5) **00 45 14** Bidder Registration and Certification
- 6) **00 45 19** Non-collusion Affidavit (Notarized)

Envelope B – 00 45 13 Statement of Qualifications (SOQ) for Construction Work

All bid envelopes will be time-stamped to reflect their submittal time. The City will reject all bids received after the specified time and will return such bids to the bidders unopened. Bidders must submit bids in accordance with this Document. Bidder's failure to submit all required documents strictly as required entitles the City to reject the bid as non-responsive. Bidder shall provide written responses to any questions or requests for information made by the City as part of the bid evaluation process after submission of the bid.

2. BID FORMS

The City will reject as non-responsive any bid not submitted on the required forms. Bids must be complete and legible. Bidders must complete all bid items and supply all information required by the bidding documents. The City reserves the right in its sole discretion to reject any bid as non-responsive as a result of any error or omission in the bid. Bidders may not modify the bid forms or qualify their bids. Bidders must submit clearly and distinctly written bids. Bidders must clearly make any changes in their bids by crossing out original entries, entering new entries, and initialing new entries. The City reserves the right to reject any bid not clearly written.

3. BID SECURITY

Bidders must submit with their bids either cash, a cashier's check, or certified check from a responsible bank in the United States, or corporate surety bond furnished by a surety authorized to do business in the State of California, of not less than ten percent (10%) of the total bid price payable to the City of San Bruno. All bidders choosing to

submit a surety bond must submit it on the required form, Document 00 41 00 (Bid Proposals). The City will reject as non-responsive any bid submitted without the necessary bid security.

The City may retain bid securities and bid bonds of all bidders for a period of 90 days after award or full execution of the contract, whichever occurs first. Upon full execution of the contract, and upon request by bidder, the City will return to the respective unsuccessful bidders their bid securities and bid bonds.

4. SUBCONTRACTORS LIST

All bidders must submit with their bids the required information on all subcontractors in Document 00 43 36 (Subcontractor List) for those subcontractors who will perform any portion of the work, including labor, rendering of service, or specially fabricating and installing a portion of the work of improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent of the total bid, pursuant to Section 4104 of the Public Contract Code. Violation of this requirement may result in the bid being deemed non-responsive and not being considered.

5. NON-MANDATORY PRE-BID CONFERENCE

The City will conduct a non-mandatory Pre-Bid Conference on Tuesday, **March 17, 2026 at 2AM PDT at the San Bruno Corporation Yard**. Please RSVP to 650-616-7065. Each bidder may be represented at the Pre-Bid Conference. Each representative shall sign an attendance sheet identifying the bidder represented.

- a. The City reserves the right to schedule and organize the Pre-Bid Conference to minimize disruption to surrounding facilities and congestion. See also Document 00 31 32, para. 5.1. Any bidder wishing to investigate subsurface conditions or otherwise conduct invasive investigations, explorations, test, or studies at this site shall schedule such examinations with the City by obtaining an approved Encroachment Permit from the City's Public Works Department prior to the investigation. An Encroachment Permit is not required for Bidders who intend only to observe site conditions and not conduct such examinations.
- b. Bidders are encouraged to submit written questions in connection with the Pre-Bid Conference. The City will transmit to all parties recorded as having received bidding documents such addenda as the City in its discretion considers necessary in response to written questions. Bidders shall not rely on oral statements. Oral statements will not be binding or legally effective.

6. OTHER REQUIREMENTS PRIOR TO BIDDING

Submission of bid signifies bidder's careful examination of the bidding documents and the complete understanding of the nature, extent, and location of the work to be performed. As a condition to bidding, bidder must complete tasks listed in Document 00 52 00 (Contract Agreement), Article 5. Submission of a bid shall constitute bidder's express representation to the City that bidder has fully completed these tasks.

7. EXISTING DRAWINGS AND GEOTECHNICAL DATA

Bidders may examine any available existing conditions information (e.g., record documents, specifications, studies, drawings of previous work on site) by giving the City reasonable advance notice, as well as applicable environmental assessment information (if any) regarding the project. Document 00 31 32 (Geotechnical Data and Existing Conditions) applies to all supplied existing conditions information and geotechnical reports and all other information supplied regarding existing conditions either above ground or below ground. The City will make copies available for a fee of printing and handling. A bidder must give 2 days advanced notice if copies are desired.

8. ADDENDA

Bidders must direct all questions about the meaning or intent of the bidding documents to City's Department of Public Works, Administration & Engineering, in writing. Interpretations or clarifications considered necessary by the City in response to such questions will be issued by addenda mailed, faxed, or delivered to all parties recorded by the City as having received bidding documents. The addenda will be written and will be issued to each bidder to the address or fax number supplied to the City by the bidder. The City may not answer questions received less than 10 days prior to the date for opening Bids. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. However, the City may, upon inquiry by the bidder, orally direct bidder's attention to specific provisions of the contract documents which cover the subject of the inquiry.

In addition:

- a. The addenda may also be issued to modify the bidding documents as deemed advisable by the City.
- b. The addenda shall be acknowledged by number with signature in Document 00 41 70 (Addenda Acknowledgement) and shall be part of the contract documents. A complete listing of the addenda may be secured from the City.

9. SUBSTITUTIONS

Bidders must base their bids on products and systems specified in the contract documents or listed by name in the addenda.

- a. Except as provided in paragraph 9.c below, the City will consider substitution requests only for "or approved equal" items. Bidders wanting to use "or approved equal items" may submit Document 00 43 25 (Substitution Request Form) no later than 7 days after the issuance of the Notice of Award. After that date, the City will not accept "or approved equal" substitution requests. To assess "or approved equal" acceptability of product or system, submittals of substitutions shall contain the information required in Document 00 43 25 and set forth in Section 01 60 00 (Product Requirements) of the contract documents. Insufficient information will be grounds for rejection of substitution. The City shall, within a reasonable period of time after having received a request for substitution, issue in writing its decision as to whether the proposed substitute item is an "or approved equal" item for

compatibility to City systems, durability, or quality. The City's decision shall be conclusive on all bidders.

- b. Approved substitutions shall be listed in the addenda and become part of the contract documents.
- c. Substitutions may be requested after submitting bids and Award of Contract only in accordance with Section 01 60 00 (Product Requirements) of the contract documents.
- d. As a limitation on bidder's privilege to substitute "or approved equal" items, the City has found that certain items are designed as City standards and certain items are designed to match existing items in use on a particular public improvement either completed or in the course of completion. As to such items, the City will not permit substitution. As a further limitation on bidder's privilege to substitute items, the City has found that certain necessary items are only available from one source. As to such items, the City will not permit substitution.

10. WAGE RATES

Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the contract, as determined by Director of the State of California Department of Industrial Relations, are on file at the City's office and are deemed included in the bidding documents. Upon request, the City will make copies available to any interested party. Also, the bidders shall post the applicable prevailing wage rates at the job site. The California Department of Industrial Relations is at <http://www.dir.ca.gov/>

11. EQUAL EMPLOYMENT OPPORTUNITY

Bidder shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical conditions, disability, or any other reason.

12. PLANS

Complete sets of bidding documents must be used in preparing bids. The City assumes no responsibility for errors or misinterpretations resulting from use of incomplete sets of bidding documents. The drawings in the bidding documents are reduced scale reproductions. The amount of reduction is indicated by a note or scale bar on the drawings. Copies of full-scale drawings, including individual drawings, may be obtained from the City for the cost of reproduction, plus shipping and handling. Full-size drawings will only be made available to bidders who previously obtained a complete set of bidding documents. No return of full-size drawings is required, and no refund will be made.

13. DETERMINATION OF APPARENT LOW BIDDER

- a. City will open each Bidder's Envelope A at the time and place indicated in Document 00 10 00 (Notice Inviting Bids), initially evaluate them for responsiveness, and determine an Apparent Low Bidder as specified herein. City will not open Envelopes B publicly, and except for the Apparent Low Bidder's Envelope B (or as otherwise provided in this Document 000 21 00), they will remain unopened.
- b. Apparent Low Bid will be determined as provided in Document 00 41 00 (Bid Proposal). All bidders are required to submit bids on all bid items, including any alternates.
- c. For the Apparent Low Bidder only, City will open Envelope B and evaluate the Apparent Low Bidder for responsiveness to the requirements of Document 00 4513 and for responsibility.
- d. If Apparent Low Bidder is determined to be non-responsive or non-responsible, then City may proceed to the next Apparent Low Bidder's Bid pursuant to any procedures determined in its reasonable discretion, and proceed for all purposes as if this Apparent Low Bidder were the original Apparent Low Bidder.

14. EVALUATION OF BIDDER RESPONSIBILITY

The City will evaluate bidder's responsibility and compliance with the requirements of the contract documents. The City will notify Apparent Low Bidder in writing of any deficiencies found and will provide Apparent Low Bidder the opportunity to respond in writing with reasonable clarifications, but will not allow any changes to the bid price and amount.

15. BID EVALUATION

The City reserves the right, in its sole discretion, to waive any inconsequential defects or minor irregularities in the bids. The City also reserves the right, in its sole discretion, to reject any or all bids and to re-bid the project. The City reserves the right, in its sole discretion, to reject any or all nonconforming, non-responsive, unbalanced, or conditional bids, and to reject the bid of any bidder if the City believes that it would not be in the best interest of the project to make an award to that bidder, whether because the bid is not responsive or the bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the City. For purposes of this paragraph, an "unbalanced bid" is one having nominal prices for some work items and enhanced prices for other work items.

- a. In evaluating bids, the City will consider bidders' qualification, whether or not the bids comply with the prescribed requirements, unit prices and other data, as may be requested in Document 00 41 00 (Bid Proposal) or prior to the Notice of Award.

- b. Subject to any pre-qualification process for the bidders, the City may otherwise conduct reasonable investigations and reference checks of bidder, proposed subcontractors, suppliers and other persons and organizations, as the City deems necessary to assist in the evaluation of any bid. The City shall also have the right to communicate directly with bidder's surety regarding bidder's bonds.
- c. Discrepancies between the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum or any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between written words and figures will be resolved in favor of the words.
- d. Quantities stated in the bidding documents are approximate only and are subject to correction upon final measurement of the work, and are subject further to the rights reserved by the City to increase or diminish the amount of work under any classification as advantages to design or as construction needs require.
- e. Bids shall be deemed to include the written responses of the Bidder to any questions or requests for information of Owner made as part of Bid evaluation process after submission
- f. The City may determine whether a bidder is qualified, responsive or responsible in its sole discretionary judgment.

16. AWARD

If the contract is to be awarded, it will be awarded to the lowest responsible, responsive bidder. Such Award, if made, will be made within ninety (90) days after the opening of the Bid Proposals. Following completion of all required City procedures and receipt of all City approvals, the City will issue Document 00 51 00 (Notice of Award) to the successful bidder.

17. BID PROTEST

Any bid protest must be submitted in writing to the City's Public Works Department, Administration & Engineering (Attention: City Engineer), before 5:00 p.m. of the 5th calendar day following issuance of Document 00 50 50 (Notice of Intent to Award for Construction). Time of receipt will be determined by City staff. City will use reasonable efforts to deliver by email or facsimile a copy of the Notice of Intent to Award to all bidders who submitted Bid Proposals no later than the business day after issuance, although any delay or failure to do so will not extend the bid protest deadline described above.

- a. The initial protest must contain a complete statement of the basis for the protest.
- b. The protest must refer to the specific portion of the document that forms the basis for the protest.
- c. The protest must include the name, address, and telephone number of the person representing the protesting party.

- d. Only bidders who the City determines are otherwise responsive and responsible (i.e., other than as to the specific subject of the protest) are eligible to protest a bid; protests from any other bidder will not be considered. In order to determine whether a protesting bidder is responsive and responsible, City may evaluate all information contained in any protesting bidder's Bid Proposal, and conduct the same investigation and evaluation as City is entitled to take regarding an Apparent Low Bidder.
- e. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
- f. The procedure and time limits set forth in this paragraph are mandatory and are bidder's sole and exclusive remedy in the event of a bid protest. Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings. A bidder may not rely on a protest submitted by another bidder, but must timely pursue its own protest.

18. POST-NOTICE OF AWARD REQUIREMENTS

After Notice of Award is issued, the successful bidder must execute and submit the following documents as indicated below:

- a. Submit the following documents to the City by 5:00 p.m. of the 10th working day following the Notice of Award. Execution of the contract agreement by the City depends upon approval of these documents, and any other document identified in the City's Notice of Award:
 - 1) Document 00 52 00 (Contract Agreement): To be executed by successful bidder. Submit three originals, each bearing an original signature.
 - 2) Document 00 61 13.13 (Construction Performance Bond): To be executed by successful bidder and surety, in the amount set forth in Document 00 61 13. Submit one original.
 - 3) Document 00 61 13.16 (Construction Labor and Material Payment Bond): To be executed by successful bidder and surety, in the amount set forth in Document 00 61 13.16. Submit one original.
 - 4) Insurance certificates and endorsements required by Document 00 72 00 (General Conditions) Article 4. Submit one original set.
 - 5) Any other item described in Document 00 51 00 (Notice of Award).
- b. The City shall have the right to communicate directly with Apparent Low Bidder's proposed performance bond surety to confirm the performance bond. The City may elect to extend the time to receive faithful performance and labor and material payment bonds.
- c. Successful bidder's failure to submit the documents required herein, in a proper and timely manner, entitles the City to rescind its award, and to cause bidder's bid security to be forfeited as provided herein.

19. FAILURE TO EXECUTE AND DELIVER DOCUMENTS

If the bidder to whom the contract is awarded shall, within the period described in Paragraph 18 of this Document 00 21 00, fails or neglects to execute and deliver all required contract documents and file all required bonds, insurance certificates, and other documents, the City may, in its sole discretion, foreclose on bidder's deposit surety bond, or deposit bidder's cashier's check or certified check for collection, and retain the proceeds thereof as liquidated damages for bidder's failure to enter into the contract documents. Bidder agrees that calculating damages the City may suffer as a result of bidder's failure to execute and deliver all required contract documents would be extremely difficult and impractical and that the amount of bidder's required bid security shall be the agreed and presumed amount of the City's damages. In addition, upon such failure, the City may determine the next Apparent Low Bidder and proceed accordingly.

20. MODIFICATION OF COMMENCEMENT OF WORK

The City expressly reserves the right to modify the date for the commencement of work under the contract and to independently perform and complete work related to the project. The City accepts no responsibility to the contractor for any delays attributed to its need to complete independent work at the site.

21. WITHDRAWAL OF BIDS

Bidders may withdraw their bids at any time prior to the bid opening time fixed in this Document, only by written request for the withdrawal of the bid filed with the City at the City's office. Bidder or its duly authorized representative shall execute a request to withdraw the bid. The submission of a bid does not commit the City to award a contract for the project, to pay costs incurred in the preparation of a bid, or to procure or contract for any goods or services.

22. INELIGIBLE CONTRACTORS AND SUBCONTRACTORS

The City shall not accept a bid from a bidder who is ineligible to bid or work on, or be awarded, a public works project pursuant to California Labor Code Section 1777.1 or 1777.7. Bidders and the contractor who is awarded the project contract shall not utilize, or allow work by any subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to California Labor Code Section 1777.1 or 1777.7. (See California Public Contract Code Section 6109.) The California Division of Labor Standards Enforcement publishes a list of debarred contractors and subcontractors on the Internet at www.dir.ca.gov/DLSE/debar.html.

23. PUBLIC RECORDS ACT REQUESTS

- a. Per the Public Records Act, the City will make available to the public the bidder's Statement of Qualifications (if Envelope B is opened), all correspondence and

written questions submitted during the bid period, all bid submissions opened in accordance with the procedures of this Document, and all subsequent bid evaluation information. All submissions not opened will remain sealed and eventually be returned to the submitter. Except as otherwise required by law, the City will not disclose trade secrets or proprietary financial information submitted that has been designated confidential by bidder (including but not limited to the SOQ). Any such trade secrets or proprietary financial information that a bidder believes should be exempted from disclosure shall be specifically identified and marked as such. Blanket-type identification by designating whole pages or sections shall not be permitted and shall be invalid. The specific information must be clearly identified as such.

- b. Upon a request for records regarding this bid, the City will notify bidder involved within 10 days from receipt of the request when the records will be made available for inspection. If the bidder timely identifies any “proprietary, trade secret, or confidential commercial or financial” information that bidder determines is not subject to public disclosure, and requests the City to refuse to comply with the records request, bidder shall take all appropriate legal action and defend the City’s refusal to produce the information in all forums; otherwise the City will make such information available to the extent required by applicable law, without restriction.
- c. Information disclosed in the SOQ and the attendant submissions are the property of the City unless bidder makes specific reference to data that is considered proprietary. Subject to the requirements in the Public Records Act, reasonable efforts will be made to prevent the disclosure of information except on a need-to-know basis during the evaluation process.

24. CONSTRUCTION PAYMENT BOND AND CONSTRUCTION LABOR AND MATERIALS BOND SURETY

Documents 00 61 13.13 (Construction Performance Bond) and 00 61 13.16 (Construction Labor and Material Payment Bond) shall be executed by a surety insurer admitted in the State of California by the Department of Insurance. The City shall verify surety’s admission by either: (1) printing out information from the website of the Department of Insurance confirming that the surety is an admitted surety insurer; or, (2) obtaining a certificate from the County Clerk confirming that the surety is an admitted insurer. The City shall attach such verification to Documents 00 61 13.13 and Document 00 61 13.16.

25. CONFORMED CONSTRUCTION DOCUMENTS

Following Award of Contract, the City may prepare a conformed set of contract documents reflecting addenda issued during bidding, which will, failing objection, constitute the approved set of contract documents.

26. DEFINITIONS

All abbreviations and definitions of terms used in this Document are set forth in Document 01 42 16 (Definitions).

-END OF DOCUMENT-

DOCUMENT 00 24 13

SCOPE OF BIDS

1. WORK COVERED BY CONTRACT DOCUMENTS:

- A. Work comprises of the construction of the City of San Bruno Corporation Yard EV Charger Phase 2 Project located in San Bruno, California.
- B. The Work of this Contract comprises construction of all the Work indicated, described in the Specifications, or otherwise required by the Contract Documents.
- C. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work.
- D. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices Bid and no direct or additional payment will be made therefor.

2. BID ITEMS:

- A. Any Bid item may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Bid items or prices therefore.
- B. Payment of all items is subject to provisions of Contract Documents, including without limitation Section 01 20 00 (Measurement and Payment Procedures).
- C. For all Bid items, furnish and install all Work, including connections to existing systems, indicated and described in Specifications and all other Contract Documents. Work and requirements applicable to each individual Bid item, or unit of Work, shall be deemed incorporated into the description of each Bid item (whether Lump Sum or Unit Price).
- D. Mobilization/demobilization consists of furnishing transportation, labor, materials, equipment, and incidentals necessary to prepare the site of work accordance to project plans and as directed by the Engineer. This includes accomplishing all necessary schedule preparation, public notification, clearing and grubbing, cleaning, survey layout, removing cat-tracks, fees, and permits; and establishment of bonds, insurance, dust control, storm water pollution prevention.
- E. All Bid items shall include full compensation for furnishing Transportation, Labor, Materials, Tools, Equipment, Excavation, Shoring, Backfill and Compaction, Bypass Pumping, Traffic Control, Storm Water Pollution Prevention (SWPPP), Debris Removal and Disposal, and any other incidental costs necessary to complete in place as a fully functioning system in accordance with project plans, specifications, and permits.

3. ALLOWANCES:

- A. Allowance Work shall be done as Change Orders and as specified in Section 01 26 00 (Contract Modification Procedures). Identify Allowance Items (See Document 00 41 00 – Bid Proposal) work on the Progress Schedules and on Applications for Payment.
- B. The Amount given on Document 00 41 00 under each Allowance Item is the sum of money set aside for each Allowance Item. These amounts shall be included in the Contract Sum on the Bid Form.
- C. If the cost of Work done under any Allowance Item is less than the amount given on the Bid Form under that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given in the Bid Form and the cost of Work actually done.
- D. Scope of Allowances:

4. ALTERNATES:

- A. **None**

5. DESCRIPTION OF BID ITEMS AND BASIS OF PAYMENT:

Bid Item No. 1 – Mobilization/Demobilization

- A. Bid Item for “Mobilization/Demobilization” includes payment for all work, equipment, and materials and incidentals necessary for Contractor’s mobilization and demobilization.
- B. No measurement will be made. Payment shall be “Lump Sum” and shall be full compensation for, but not limited to, the following:
 - 1. Preparatory work and operations, including, but not limited to those necessary for the movement of personnel, lead compliance plan, equipment, supplies, and incidentals to the project site.
 - 2. Costs of obtaining bonds and insurance.
 - 3. Cost of preparation, obtaining, coordination, and compliance with all permits.
 - 4. Cost of preparation, submission, and re-submission of submittals and deferred submittals.
 - 5. Cost of procurement of project signs (2) at each street with construction activity.
- C. Payments for Mobilization/Demobilization will be made as follows:
 - 1. When the total monthly partial payment estimate of the amount earned, not including the amount earned for mobilization/demobilization, is ten percent

- (10%) or more of the original contract amount, fifty percent (50%) of the contract item price for mobilization/demobilization will be included in the estimate for payment.
2. When the total monthly partial payment estimate of the amount earned, including the amount earned for mobilization/demobilization, is ninety-five percent (95%) of the final contract amount, one hundred percent (100%) of the contract item price for mobilization/demobilization will be included in the estimate for payment.
- D. Bid Item for “Mobilization/Demobilization” shall not exceed 5 percent of the total bid price.

Bid Item No. 2 – Traffic and Pedestrian Control

- A. Bid Item for “Traffic and Pedestrian Control” includes payment for furnishing transportation, labor, materials, temporary traffic control signs, tools, equipment, and incidentals, and for doing all work involved in Traffic and Pedestrian Control and described in Section 01 51 00 (Temporary Facilities and Controls), and as directed by the Engineer.
- B. No measurement will be made. Payment shall be “Lump Sum” and shall be full compensation for, but not limited to, the following:
1. Coordinating with various agencies and businesses.
 2. Coordinating with various agencies and businesses.
 3. Preparing traffic and pedestrian control plans for City’s review and approval prior to project construction.
 4. Placing, moving, removing, storing, and maintaining No-Parking signs, temporary signs, changeable message signs, temporary traffic signs, Construction Area signs at project limits and all cross streets, and other traffic control devices, including flagging.
 5. Loading, hauling, removing, covering, and uncovering construction signs.
 6. Placing and removing any temporary striping as may be required.
 7. Maintaining streets and sidewalks to provide safe passage for pedestrians and vehicles.
- C. Payment for Traffic and Pedestrian Control will be based on the total percent complete of the Bid items of work completed and accepted for payment.

Bid Item No. 3 – Public Notification and Agency Coordination

- A. Bid Item for “Public Notification and Agency Coordination” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work, necessary in accordance with project plans, specifications, and permits and as directed by the Engineer.
- B. No measurement will be made. Payment shall be “Lump Sum” and shall be full compensation for, but not limited to, the following:
1. Notification of the public and residents/businesses impacted by the project seven (7) calendar days in advance and during construction as described in Section 01 31 14-1.17 (Coordination, Public Notification, and Project Requirements).
 2. Coordination with Pacific Gas and Electric Company (PG&E) for new transformer.

- C. Fifty percent of the payment for Public Notification and Agency Coordination will be made upon completion of the initial public notification and finalizing schedule with PG&E and fifty percent upon substantial completion of the work.

Bid Item No. 4 – Trenching and Restoration

- A. Bid Item for “Trenching” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work, necessary in accordance with project plans, specifications, and permits and as directed by the Engineer.
- B. Payment shall be “Linear Foot” and shall be full compensation for, but not limited to the following:
 - 1. Saw-cutting
 - 2. Removal of existing Asphalt Concrete, aggregate base, soil, and deleterious materials.
 - 3. Furnishing, placing, compacting and surface restoration, including sidewalks, pavement, pavement reinforcing fabric, driveways, parking lot, slabs, curbs, gutters, median, and adjusting structures to finish grade.
 - 4. Pavement stripping and marking.
 - 5. Field and lab compaction testing and associated coordination.
 - 6. All additional materials and labor, not shown on the plans or specified, which are necessary to complete the removal of Asphalt concrete, aggregate base, soil, and deleterious materials.

Bid Item No. 5 – Conduit and Wire

- A. Bid Item for “Conduit and Wire” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work, necessary in accordance with project plans, specifications, and permits and as directed by the Engineer
- B. Payment shall be “Lump Sum” and shall be full compensation for, but not limited to the following:
 - 1. Supplying and installing all required conduits of all specified or necessary diameter, wiring, conductor, mounting hardware, couplings, connectors, expansion fittings, transition fittings, pull elbows, pull boxes, handholes, locknuts, nipples, bushings, hubs, bell ends, sweeps, duct spacers, racks, and termination caps/plugs.
 - 2. Up to 2-feet of free-conductor and/or slack for wires, cables and conductors.
 - 3. Weather proofing and fireproofing conduit penetrations through building enclosures, equipment cabinets, boxes, and vaults.
 - 4. Signage, placards, marking, and labeling.
 - 5. All additional materials and labor, not shown on the plans or specified, which are necessary to complete the installation of conduits.

Bid Item No. 6 – Reinforced Concrete Equipment Pads

- A. Bid Item for “Reinforced Concrete Equipment Concrete Pads” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work necessary in accordance with project plans specifications, and permits and as directed by the Engineer.

- B. Measurement and payment shall be per cubic feet of concrete installed. The area of work is as shown on the Drawings and shall be full compensation for, but not limited to, the following:
1. All submittals.
 2. Construction Survey and laying out pad location.
 3. Removing paving, excavating soil, and pruning/removing tree roots or other obstructions to allow for specified concrete thickness.
 4. Scarifying and compacting subgrade.
 5. Furnishing and compacting aggregate base.
 6. Building form boards, placing embeds, stub-ups, placing and finishing concrete, grout, score lines and joints.
 7. Furnishing and installing reinforcing steel, tie bars, dowel bars, metal flashings, anchors.
 8. Furnishing, placing, and compacting surface restoration, including sidewalks, pavement, pavement reinforcing fabric, driveways, pads, curbs, gutters, median, and adjusting structures to finish grade.
 9. Lab compression tests.
 10. All additional materials and labor, not shown on the plans or specified, which are necessary to install reinforced concrete equipment pads.

Bid Item No. 7 – Electrical Service Equipment Installation

- A. Bid Item for “Electrical Service Equipment Installation” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work necessary in accordance with project plans specifications, and permits and as directed by the Engineer.
- B. No measurement will be made. Payment shall be “Lump Sum” and shall be full compensation for, but not limited to, the following:
1. All submittals
 2. Providing and installing all equipment shown on the plans and specification and necessary for installing the main switchboard MSB-EV, panelboard DP-EV1, and transformer T-EV1 including, but not limited to: utility meters, transformers, switches, surge arrestors, fuses, circuit breakers, grounding electrode system, inverters, junction boxes, pushbuttons, camlocks, enclosures, fasteners, mounting hardware, cables, wires, gaskets, sealants, labels, plates, placards, and signs.
 3. Mounting equipment to concrete pad, walls, or posts.
 4. Connecting wiring.
 5. Providing conduit sweeps.
 6. Testing and commissioning.
 7. All additional materials and labor, not shown on the plans or specified, which are necessary to install electrical equipment.

Bid Item No. 8 – Automatic Load Management System

- A. Bid Item for “Automatic Load Management System” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work necessary in accordance with project plans specifications, and permits and as directed by the Engineer.
- B. No measurement will be made. Payment shall be “Lump Sum” and shall be full compensation for, but not limited to, the following:

1. All submittals
2. Installing the structural support system including any footing, posts, and mounting hardware.
3. Installing the Automatic Load Management System including, but not limited to, full system provided by the manufacture, wiring, controller, conduits, cables, modem, and switches.
4. Installing the control cabinet/controller.
5. Install communication and networking infrastructure.
6. Testing and commissioning.
7. All material and equipment to install shown on the plans and specifications and necessary for installing the automatic load management system.

Bid Item No. 9 – Level 2 EV Chargers

- A. Bid Item for “Level 2 EV Chargers” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work necessary in accordance with project plans specifications, and permits and as directed by the Engineer.
- B. Measurement and Payment shall be for “Each” charger and shall be full compensation for, but not limited to, the following:
 1. All submittals
 2. Providing the chargers and connecting them to electrical circuit.
 3. Mounting equipment to concrete pad, walls, or posts.
 4. Testing and commissioning.
 5. All additional materials and labor, not shown on the plans or specified, which are necessary to install the main switchboard.

Bid Item No. 10 – Fast EV Chargers

- A. Bid Item for “Fast EV Chargers” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work necessary in accordance with project plans specifications, and permits and as directed by the Engineer.
- C. Measurement and Payment shall be for “Each” charger and shall be full compensation for, but not limited to, the following:
 1. All submittals
 2. Providing the chargers and connecting them to electrical circuit.
 3. Mounting equipment to concrete pad, walls, or posts.
 4. Testing and commissioning.
 5. All additional materials and labor, not shown on the plans or specified, which are necessary to install the main switchboard.

Bid Item No. 11 – Bollards

- A. Bid Item for “Bollards” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work necessary in accordance with project plans specifications, and permits and as directed by the Engineer.
- B. Measurement and Payment shall be for “Each” bollard and shall be full compensation for, but not limited to, the following:
 1. Removal and proper disposal of concrete, asphalt, and soil.
 2. Excavating for footing.
 3. Embedding bollard in concrete footing.

4. Installing galvanized steel pipe filled with concrete.
5. Coating the pipe surface.
6. Furnishing, placing, and compacting surface restoration, including sidewalks, pavement, pavement reinforcing fabric, driveways, curbs, gutters, median, and adjusting structures to finish grade.
7. All additional materials and labor, not shown on the plans or specified, which are necessary to install the main switchboard.

Bid Item No. 12 – Close-out Documentation (LS)

- A. Bid Item for “Close-out Documentation” includes payment for furnishing transportation, labor, materials, tools, equipment and incidentals, and for doing all work necessary in accordance with project plans specifications, and permits and as directed by the Engineer.
- B. Measurement and Payment shall be “Lump Sum” and shall be full compensation for, but not limited to, the following:
 1. Providing redline as-built drawings accurately showing the placement or all equipment and underground infrastructure installed on the project.
 2. Providing manufacturer and labor warranties.
 3. Providing operation and maintenance manuals.
 4. Inspection, test and commissioning reports.

-END OF DOCUMENT-

DOCUMENT 00 31 32

GEOTECHNICAL DATA AND EXISTING CONDITIONS

1. REPORT AND INFORMATION

- 1.1 **Existence of Reports:** City, its consultants, and prior contractors may have collected documents providing a general description of the Site and conditions of the Work. These documents may consist of geotechnical reports for and around the Site, contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding Underground Facilities. These reports, documents and other information are not part of the Contract Documents.
- 1.2 **Inspection of Reports:** Bidders may inspect geotechnical reports and information regarding existing conditions at the Site. These documents are available for review at the City's Public Works Department, Administration & Engineering, located at 567 El Camino Real, San Bruno, CA 94066 and copies may be obtained for the cost of reproduction and handling upon Bidder's payment for the costs. These reports, documents and other information are not part of the Contract Documents. Nevertheless, by submitting a Bid, Bidder accepts full responsibility for reviewing, knowing and understanding the contents of all of these materials.
- 1.3 **Inclusion in Project Manual:** Geotechnical reports may be included in the Project Manual and information regarding existing conditions may also be included in the Project Manual, but neither shall be considered part of the Contract Documents.
- 1.4 **Available Documentation:** The following documentation is available for review through the City for this Contract:
- Construction Sketch of proposed PG&E work and existing underground site utilities

2. USE OF INFORMATION ON EXISTING CONDITIONS

- 2.1 **Aboveground Existing Conditions:** Under no circumstances shall City be deemed to make a warranty or representation of existing aboveground conditions, as-built conditions, or other aboveground actual conditions verifiable by reasonable independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform prior to bidding and Bidder must not rely on the information supplied by City regarding existing conditions. Bidder represents and agrees that in submitting its Bid, it is not relying on any information regarding existing conditions supplied by City.
- 2.2 **Underground Facilities:** Information supplied regarding existing Underground Facilities at or contiguous to the Site is based on information furnished to City by others (e.g., the builders of such Underground Facilities or others). Except as expressly set forth in this Document, City does not assume responsibility for the accuracy, completeness or thoroughness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information.

Except as expressly set forth in this Document, City will be responsible only for the general accuracy of information regarding Underground Facilities, and only for those Underground Facilities that are owned by City. This express assumption of responsibility applies only if Bidder has conducted the independent investigation required of it and discrepancies were not apparent.

3. LIMITED RELIANCE PERMITTED ON CERTAIN GEOTECHNICAL INFORMATION

- 3.1 **Geotechnical Data:** Except as expressly set forth in this Document, City does not warrant, and makes no representation regarding, the accuracy or thoroughness of any geotechnical data. Bidder represents and agrees that in submitting its Bid, it is not relying on any geotechnical data supplied by City, except as specifically set forth herein.

4. INVESTIGATIONS

- 4.1 Before submitting a Bid, each Bidder shall be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents. Bidders shall advise City in writing during the Bid period of any questions, suppositions, inferences or deductions Bidders may have for City's review and response.
- 4.2 City has provided time in the period prior to bidding for Bidder to perform these investigations.

5. ACCESS TO SITE FOR INVESTIGATIONS

- 5.1 During the Pre-Bid Site Visit(s), City will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as each Bidder deems necessary for submission of a Bid. Bidders must fill all holes and clean up and restore the Site to its former conditions upon completion of such explorations, investigations, tests, and studies. Such investigations may be performed only under the provisions of Document 00 21 00 (Instructions to Bidders) and Document 00 72 00 (General Conditions) including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such investigation work. Each Bidder shall supply all equipment required to perform any investigations as each Bidder deems necessary. City has the right to limit the number of pieces of machinery operating at one time due to safety concerns.

-END OF DOCUMENT-

DOCUMENT 00 41 00

BID PROPOSAL

THIS BID IS SUBMITTED BY (Please print clearly):

Legal Name of Firm: _____ Date _____

Business Address: _____

TO: City of San Bruno, Public Works Department

The undersigned, hereinafter referred to as the "Bidder", declares that the only person or parties interested in the Bid Proposal are those named herein; that this Bid Proposal is in all respects fair and without fraud; that it is made without collusion with any official or employee of the City of San Bruno (the "City") and that the Bid Proposal is made without any connection or collusion with any person making another proposal on this contract.

1. In submitting this bid, Bidder represents the following:
 - (a) Bidder acknowledges receipt of Pre-Bid Conference minutes, if any.
 - (b) Bidder has visited the site and performed all tasks, research, investigation, reviews, examinations, and analysis and given notices, regarding the project and the site, as set forth in Document 00 52 00 (Contract Agreement), Article 5.
 - (c) Bidder has given the City prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the contract documents and actual conditions and the written resolution thereof through addenda issued by the City is acceptable to Bidder.
2. The Bidder agrees that if this Bid Proposal is accepted, they will, within ten (10) working days after Notice of Award, execute the contract with the City in the form of Document 00 52 00 (Contract Agreement). The Bidder will deliver to the City the insurance certificates, performance and payment bonds herein required within ten (10) working days after the Bidder has received the Notice of Award. The Bidder will, to the extent of the Bid Proposal, furnish all labor, tools, equipment, and other means of construction to do the work and to furnish all materials necessary to complete the work and to furnish all materials necessary to complete the work in the manner, in the time, and according to the methods as specified in the contract documents and as may be required by the Engineer thereunder. Upon receipt by the City of the satisfactorily executed contract, insurance certificates, performance and payment bonds, a written Notice to Proceed will be sent to the Contractor. The Bidder further agrees to commence work within ten (10) calendar days after the Notice to Proceed. All work shall be completed within the time period specified from the date of the Notice to Proceed. In the event the Bidder is awarded the contract and fails to perform the work herein specified, within the time specified for completion, liquidated damages shall be paid to the City in the amount set forth in the contract agreement,

for each calendar day beyond the time herein provided for the completion of such work. Sundays and legal holidays will be excluded in determining the number of days in default.

3. All items of the work shall be considered complete and in place, and no additional compensation shall be granted. All of the work required to provide a complete and operational system shall be considered to be included in the listed tasks and no compensation shall be granted for additional items. Compensation for any item of work required by these contract documents but not specifically described in any bid item shall be included in the bid item most clearly related to said item of work.
4. The TOTAL BID PRICE is for all work satisfactorily completed and includes any and all sales and use taxes and levies that may be applicable.
5. The Bidder shall complete the bid schedule in clearly legible figures, the unit price and an item total for the item in the respective spaces provided for this purpose. In the case of unit basis items, the amount set forth under the "TOTAL" column shall be an extension of the unit price bid and the estimated quantity for the item. In case of a discrepancy between the unit price and total set forth for the item, the unit price shall prevail and the total for the item, and therefore the "TOTAL BASE BID AMOUNT", shall be adjusted accordingly, and the bid award shall be made on the basis of the corrected total base bid amount.
6. **BASIS OF BID COMPARISON & DETERMINATION OF LOW BIDDER:**
Bids are required for the Entire work. The Amount of the Bid for Comparison and Determination of Low Bidder will be the Total of the Base Bid.
7. **All bids must be submitted in ink on the bid forms provided. Erasures are not acceptable. Changes must be lined out and corrections inserted adjacent and initialed by the Bidder's authorized representative. Bid modifications, corrections or additions received beyond the bid deadline shall not be considered. Telephone or facsimile bids shall not be accepted. Signatures must be original signatures and be notarized where required.**
8. The City reserves the right to: (1) reject any or all bids; (2) waive inconsequential defects or minor irregularities in the bid documents or minor variances from the bid specification; and (3) correct arithmetic errors on the bid schedule.
9. Bidder accepts all of the terms and conditions of the contract documents, Document 00 10 00 (Notice Inviting Bids), and Document 00 21 00 (Instructions to Bidders). This bid will remain subject to acceptance for 90 days after the day of bid opening.
10. Bidder agrees that, in accordance with Document 00 72 00 (General Conditions), liquidated damages for failure to complete all work in the contract within the time specified in Document 00 52 00 (Contract Agreement) shall be as set forth in Document 00 52 00 (Contract Agreement).

BID SCHEDULE

All bid items, including lump sums and unit prices, must be filled in completely. Bid items are described in Document 00 24 13 (Scopes of Bids). Quote in figures only, unless words are specifically requested.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL
Base Bid					
1	Mobilization/Demobilization shall not exceed <u>5% of total base bid</u>	1	LS	\$	\$
2.	Traffic and Pedestrian Control	1	LS	\$	\$
3.	Public Notification and Agency Coordination	1	LS	\$	\$
4.	Trenching and Restoration	250	LF	\$	\$
5.	Conduits and Wires	1	LS	\$	\$
6.	Reinforced Concrete Equipment Pads	130	CF	\$	\$
7.	Electrical Service Equipment Installation	1	LS	\$	\$
8.	Automatic Load Management System	1	LS	\$	\$
9.	Level 2 EV Chargers	7	EA	\$	\$
10.	Fast EV Chargers	2	EA	\$	\$
11.	Bollards	15	EA	\$	\$
12.	Close-out Documentation As Built Record Drawings	1	LS	\$	\$
BASIS OF BID COMPARISON & DETERMINATION OF LOW BIDDER: BASE BID TOTAL					\$

TOTAL BID PRICE FOR BID COMPARISON & DETERMINATION OF LOW BIDDER – BASE BID TOTAL (IN NUMBERS):

TOTAL BID PRICE FOR BID COMPARISON & DETERMINATION OF LOW BIDDER - BASE BID TOTAL (IN WORDS):



IN WITNESS WHEREOF, the Bidder named herein on the date affixed hereto has duly executed the Proposal.

BIDDER:

By: _____
Authorized Signature

Name: _____

Address: _____

Attest: _____
Notary Public, State of California

Date: _____

-END OF DOCUMENT-

DOCUMENT 00 41 70

ADDENDA ACKNOWLEDGEMENT

The Bidder has examined all addenda (if any) during the bid period and acknowledges receipt of the following:

ADDENDUM NO. _____	DATE RECEIVED: _____
ADDENDUM NO. _____	DATE RECEIVED: _____
ADDENDUM NO. _____	DATE RECEIVED: _____
ADDENDUM NO. _____	DATE RECEIVED: _____
ADDENDUM NO. _____	DATE RECEIVED: _____

-END OF DOCUMENT-

DOCUMENT 00 43 13

PROPOSAL GUARANTEE (Bid Bond)

KNOW ALL PERSONS BY THESE PRESENTS that

_____, as BIDDER, and _____, as SURETY, are held and firmly bound unto City of San Bruno, as Owner, in the penal sum of _____dollars (\$_____) which is ten percent of the total amount bid by BIDDER to Owner for the project listed below. For the payment of which sum, BIDDER and SURETY agree to be bound, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is submitting a Bid for City Project Number 51035, San Bruno Corporation Yard EV Chargers Phase 2 project in San Bruno, CA.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas BIDDER is about to submit a bid to Owner for the above stated project. If said bid is rejected, or if said bid is accepted and a contract is awarded and entered into by BIDDER in the manner and time specified, then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor of Owner.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals this _____day of _____, 20_____.

BIDDER _____

SURETY _____

Subscribed and sworn to this _____ day of _____, 20_____.

NOTARY PUBLIC _____

-END OF DOCUMENT-

DOCUMENT 00 43 36

SUBCONTRACTOR LIST

In compliance with the provisions of Section 4100-4113 of the Public Contracts Code of the State of California, and any amendments thereof, the undersigned bidder has set forth below the name and location of the place of business of each subcontractor who will perform work or labor or render service to the undersigned in or about the construction of the work, and each subcontractor who, under subcontract will specially fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications, for such work to be performed under the project documents to which the attached bid is responsive, and the portion of the work which will be done by each subcontractor and for each subcontract in excess of one-half of one percent (0.5%) of the undersigned's Total Bid Price. Bids submitted without this form will be considered non-responsive. If the bidder does not intend to use any subcontractors, write "none" in the first row "Subcontractor Name" space.

1.	_____	_____	_____
	Subcontractor Name	Contractor License No.	Division of Work
	_____	_____	_____
	Address		Phone No.
2.	_____	_____	_____
	Subcontractor Name	Contractor License No.	Division of Work
	_____	_____	_____
	Address		Phone No.
3.	_____	_____	_____
	Subcontractor Name	Contractor License No.	Division of Work
	_____	_____	_____
	Address		Phone No.
4.	_____	_____	_____
	Subcontractor Name	Contractor License No.	Division of Work
	_____	_____	_____
	Address		Phone No.
5.	_____	_____	_____
	Subcontractor Name	Contractor License No.	Division of Work
	_____	_____	_____
	Address		Phone No.
6.	_____	_____	_____
	Subcontractor Name	Contractor License No.	Division of Work
	_____	_____	_____
	Address		Phone No.

(Attached Additional Sheet if more than six (6) Subcontractors)

NOTE: The Contractor shall not, without the consent of the City of San Bruno, sublet or subcontract in excess of fifty percent (50%) of his Total Bid Price. Pursuant to Section 4107 of the California Public Contract Code, the Contractor shall not:

- a. Permit any subcontract or subcontractor to be substituted, assigned, transferred, or to be performed by anyone other than the subcontractor listed in this Document 00 43 36.
- b. Sublet or subcontract any portion of the work in excess of one-half of one percent (0.5%) of his bid for which a subcontractor was not listed on this Document 00 43 36.

The Contractor's attention is invited to other provisions of Public Contracts Code related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions.

-END OF DOCUMENT-

DOCUMENT 00 45 13

STATEMENT OF QUALIFICATIONS (“SOQ”) FOR CONSTRUCTION WORK

1. GENERAL INFORMATION

A. Statement of Qualifications. In Document 00 10 00 (Notice Inviting Bids) the City of San Bruno (“City”) has indicated that it will receive sealed Bids for the construction of the Contract for the **“SAN BRUNO CORPORATION YARD EV CHARGERS PHASE 2 PROJECT (51035)”**. The Contract will require the Contractor to construct the Project, all in accordance with the scope of Work set forth in the Contract. **All bids must contain the completed “Contractor Statement of Qualifications Questionnaire” included herein as pages 00 45 13- 3 through 00 45 13-12 and other items required by this Document 00 45 13 (together, the “SOQ”).**

B. Minimum Qualifications

1. Bidders must be duly licensed in accordance with the California Business & Professions Code in the classification identified in Document 00 10 00 (Notice Inviting Bids) and have a history of work performance sufficient to meet the requirements of a responsible bidder in California Public Contract Code Section 1104.
2. Bidder must have:
 - a. **Three (3)** years experience as a continuously operating entity engaged in the performance of similar work.
 - b. Within the past five (5) years completed five (5) construction projects for public agencies or private development of a similar nature and complexity related to **EV charging station and electrical supply equipment installation**, with a contract dollar amount of at least \$400,000 each, or \$1,000,000 in the aggregate.
3. Bidder’s compliance with these minimum qualification requirements will, among other factors identified in the SOQ Questionnaire, also be measured by the experience of the supervisory personnel who will have responsible charge of the various major components of the Work. The qualifications of the Key Personnel are to be submitted with the SOQ, by providing the information described in paragraph 2.B of this Document 00 45 13.

2. REQUIRED CONTENTS OF SOQ

- A. Completed Questionnaire. Bidder shall include a completed Statement of Qualification Questionnaire in the form included herein. Bidder shall make sure its answers to the Questionnaire describe for itself and its Key Personnel proposed, their construction project experience. Add supplementary information if necessary.
- B. Resumes of Proposed Key Personnel. As part of the questionnaire, bidder shall provide a resume for each named Key Personnel of Bidder, to include the following:
- Name and proposed assignment of Key Personnel; do not include home addresses or phone numbers;
 - Years of experience;
 - Education - degrees, schools and years obtained;

- Professional Registrations;
 - Fluency in English (Yes/No);
 - Experience directly related to public works projects;
 - At least two client references, including contact names, addresses and telephone numbers, and
 - Description of projects of a similar nature worked on in the past five (5) years.
- C. Capability to Provide Required Performance and Payment Bonds. Bidder shall include a letter from a surety duly admitted, licensed to do business in the State of California, and in compliance with CCP §995.660, that the surety has agreed to provide Bidder with the required performance and payment bonds in accordance with the requirements set forth in Documents 00 63 13.13 (Construction Performance Bond) and 00 63 13.16 (Construction Labor and Material Payment Bond). Such performance and payment bonds shall be in the minimum penal sums provided therein. Bidder agrees that Surety's issuance of the letter authorizes City to verify with the surety that the surety, based upon the Bid prices, will issue the required bonds under the conditions stated.
- D. Financial Capacity. Include audited or reviewed financial statements for the three most recently completed fiscal years for Bidder. Also include audited or reviewed financial statements for the three most recently completed fiscal years for any parent company(ies) of Bidder (if applicable).
- E. Litigation History. Questionnaire includes description of litigation history for the past three years, including names of involved parties, nature of dispute, and disposition.
- F. Safety Programs and History. Questionnaire includes description of Bidder's safety programs implemented for construction projects; and history of safety violations, injuries and/or deaths associated with Bidder's projects for the past five (5) years.

3. GENERAL CONDITIONS

- A. Explanations to SOQ. Any explanation requested by a Bidder regarding the meaning or interpretation of this Document 00 45 13 must be requested in writing and with sufficient time allowed for a reply to reach Bidder before the submission of its SOQ. Oral explanations or instructions will not be binding. Any information provided to any prospective Bidder concerning this Document 00 45 13 will be furnished to all prospective Bidders as an Addendum to the Bidding Documents.
- B. Definitions. Except as set forth herein, all abbreviations and definitions of terms used in this document 00 45 13 are as set forth in Document 00 72 00 (General Conditions) or Section 01 42 16 (References and Definitions).

**STATEMENT OF QUALIFICATION QUESTIONNAIRE
THAT MUST BE SUBMITTED WITH BID
FOLLOWS ON NEXT PAGE**

CONTRACTOR STATEMENT OF QUALIFICATION QUESTIONNAIRE

[THIS QUESTIONNAIRE MUST BE SUBMITTED WITH BID PROPOSAL]

Bidders shall complete the entire Statement of Qualification Questionnaire and submit it in accordance with Document 00 21 00 (Instructions to Bidders) and Document 00 45 13 (Statement of Qualifications (SOQ) for Construction). Failure to complete this Questionnaire or inclusion of any false statement(s) shall be ground for immediate disqualification.

CONTACT INFORMATION

Company Name: _____

Owner of Company: _____

Contact Person: _____

Address: _____

Phone: _____ Fax _____

PART A: GENERAL INFORMATION

1. Does Bidder possess a valid and current California Contractor's "**A**" license for the work proposed?
Yes ___ No ___
2. Does Bidder have a minimum of **\$2,000,000** comprehensive general liability insurance coverage?
Yes ___ No ___
3. Has Bidder's Contractor's License been revoked or suspended by any governmental agency at any time in the last five (5) years?
Yes ___ No ___
4. Has Bidder been "default terminated" by an owner (other than for convenience), or has a Surety completed a contract for Bidder within the last five (5) years?
Yes ___ No ___
5. Has Bidder been cited more than twice for failure to pay prevailing wages in the last five (5) years?
Yes ___ No ___
6. Has Bidder, at any time within the past five (5) years been issued any written warnings, citations or notice to discharge any employee due to failure or refusal to carry out directions or due to incompetence or disorderly or improper conduct by any employee or workmen on any project?
Yes ___ No ___

7. Has Bidder attached copies of its reviewed or audited financial statements and accompanying notes for the latest three years?
Yes ___ No ___

**Bidder shall be immediately disqualified if any answer to questions 1, 2 or 7 is “No”.
Bidder shall be immediately disqualified if any answer to questions 3, 4, 5, or 6 is “Yes”.**

PART B: SAFETY, PREVAILING WAGE, DISPUTES AND BONDS

SAFETY

1. Has Cal/OHSA, Federal OSHA, the EPA, or any Air Quality Management District cited Bidder in the past five (5) years?
Yes ___ No ___ If yes, attach description of each citation.
2. How often does Bidder require documented safety meetings be held for:
Field Supervisor Weekly ___ Bi-Weekly ___ Monthly ___ Less Than Monthly ___
Employees Weekly ___ Bi-Weekly ___ Monthly ___ Less Than Monthly ___
New Hires Weekly ___ Bi-Weekly ___ Monthly ___ Less Than Monthly ___
Subcontractors Weekly ___ Bi-Weekly ___ Monthly ___ Less Than Monthly ___
3. How often does Bidder conduct documented safety inspections?
Quarterly ___ Semi-annually ___ Annually ___ Other ___
4. Does Bidder have home office safety representatives who visit/audit the job site?
Quarterly ___ Semi-annually ___ Annually ___ Other ___
5. What is Bidder’s Interstate Experience Modification Rate? _____.

(A rating in excess of 1.00 may constitute grounds for disqualification as non-responsible; however, Bidder may provide additional information to explain a rating above 1.00. Bidders with a rating in excess of 1.50 shall be deemed to be non-responsible and their bid rejected.)

6. Has Bidder, at any time within the past five (5) years:
- a. Received any citation or been assessed penalties for safety violations from any governmental agency?
Yes ___ No ___
If yes, attach description of each citation.
- b. Experienced on any of its projects an accident that resulted in death or a serious injury involving medical treatment by an emergency medical care provider and/or hospitalization, to any person?
Yes ___ No ___
If yes, provide detail in Part G: Safety Program and History of this Questionnaire.

PREVAILING WAGE PROVISIONS

7. Has Bidder been fined, penalized or otherwise found to have violated any prevailing wage or labor code provision within the past five (5) years? If yes, attach description of each occurrence.
Yes _____ No _____

LICENSE PROVISIONS

8. Has Bidder changed names or license numbers in the past five (5) years? If so, please state reason for change.
Yes _____ No _____
Reason: _____

DISPUTES

9. Has Bidder had any claims, litigation, or disputes ending in mediation or arbitration, or termination for cause associated with any project in the past five (5) years? If yes, attach description of each instance including details of total claim amount, settlement amount, and owner's name and phone number.
Yes _____ No _____
10. In the last five (5) years has your firm, or any firm with which any of your company's owners, officers or partners was associated, been debarred, disqualified, removed or otherwise prevented from bidding on, or completing, any government agency or public works project for any reason? If yes, attach description of each instance including details and owner's name and phone number.
Yes _____ No _____
11. In the last five (5) years has your firm been denied an award of a public works contract based on a finding by a public agency that your company was not a responsible bidder? If yes, attach description of each instance including details and owner's name and phone number.
Yes _____ No _____
12. At any time in the last five (5) years, has your firm been assessed and paid liquidated damages after completion of a project, under a construction contract with either a public or private owner? If yes, attach description of each instance including details and owner's name and phone number.
Yes _____ No _____

BONDING

13. Bonding Capacity – Provide documentation from Bidder's surety identifying the following:
Name of bonding company/surety: _____
Name of Surety Agent: _____
Surety Agent address: _____

Surety Agent phone number: _____

Is surety a California-admitted surety? Yes _____ No _____

Is surety listed in the current edition of the California Department of the Treasury's Listing of approved sureties? Yes _____ No _____

What is Bidder's total bonding capacity? _____

What percent does Bidder pay for bonds? _____

14. At any time during the past five (5) years, has any surety company made any payments on your firm's behalf as a result of a default, to satisfy any claims made against a performance or payment bond issued on your firm's behalf in connection with a construction project, either public or private?
 Yes _____ No _____
 If yes, attach description of each instance including details and provide surety's name and contact information.

PART C: EXPERIENCE OF PRIME CONTRACTOR

The unique nature of this Project requires prior similar experience for the firm and the Key Personnel assigned. Summarize similar project experience below and provide the detailed project information requested:

Prime Contractor. List **five (5)** public agency projects of similar nature and complexity, completed within the past **five (5)** years related to **EV Charging Station and electrical supply equipment installation**, with a contract dollar amount of at least **\$400,000** each, or **\$1,000,000** in the aggregate, and indicate who were the superintendent and project manager. (This may be provided on separate sheets.)

<u>Project Name/Public Agency</u>	<u>Construction Cost</u>	<u>Year Completed</u>	<u>Name of Project Superintendent</u>	<u>Name of Project Manager</u>

List Key Personnel that will be assigned to this proposed Contract:

Project Manager: _____

Project Superintendent: _____

Attach resumes of these key personnel in accordance with the information listed in Paragraph 2.B of Document 00 45 13.

Recent Projects.

Bidder shall provide information about **five (5)** of its most currently completed projects. Names and references must be current and verifiable. If a separate sheet is used, it must contain all of the following information:

1. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

2. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. .or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

3. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

4. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

5. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

PART D: FINANCIAL INFORMATION

1. Has Bidder ever reorganized under the protection of bankruptcy laws?
Yes _____ No _____ If yes, please state when _____
2. If Bidder has had the general liability carrier identified in Document 00 45 14 (Bidder Registration and Safety Experience Form) for less than 5 years, please provide additional information below for balance of the last 5 years:

Agency Name: _____

Contact Name: _____

Phone Number: _____

Carrier: _____

Carrier: _____

3. Has Bidder ever had insurance terminated or refused to renew by a carrier?
Yes _____ No _____
If yes, explain on a separate signed sheet marked with correlating cross-reference to this paragraph of the Questionnaire.

PART E: SURETY AND INSURANCE CAPABILITY

1. Has Bidder attached a letter from a surety duly licensed to do business in the State of California agreeing to provide the required bonds per paragraph 2.C of Document 00 4513?
Yes _____ No _____
2. Has Bidder attached a letter from an insurance company agreeing to provide insurance coverage per Specification Section 00 72 00, General Conditions, Number 4, **INSURANCE**?
Yes _____ No _____

PART F: LITIGATION HISTORY (Add additional sheets if necessary)

Bidder shall provide a description of construction project related litigation history for the past three years, including names of involved parties, nature of dispute, and disposition.

PART G: SAFETY PROGRAM AND HISTORY (Add additional sheets if necessary)

1. Provide a brief description of Bidder's safety programs implemented for construction projects:

2. For the past five (5) years, provide a history of all safety violations, injuries, and/or deaths associated with all of Bidder's projects:

PART H: EXPERIENCE OF SPECIALTY SUB-CONTRACTOR (COMPLETE ONLY IF REQUIRED)

Specialty Contractor. List three (3) EV Charging Station installation projects, each consisting of installation of not less than five (5) Commercial Level 2 and/or Level 3 EV Chargers.

Project Name/Public Agency	Construction Cost	Year Completed	Name of Project Superintendent	Name of Project Manager

1. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

2. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

3. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

PART I: CERTIFICATION

Bidder hereby declares under penalty of perjury that all the information provided in this questionnaire is true and correct.

SIGNATURE

TITLE

-END OF DOCUMENT-

DOCUMENT 00 45 19

**NON-COLLUSION AFFIDAVIT
Public Contract Code §7106**

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

STATE OF CALIFORNIA)
)
COUNTY OF _____) ss.
)

_____, being first duly sworn,
(Name of Principal of Bidder)

deposes and says that he or she is _____
(Office of Affiant)

of _____, the party
(Name of Bidder)

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 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, and 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 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 City of San Bruno, or anyone interested in the proposed contract; that all statements contained in the Bid are true; and further, that Bidder has not, directly or indirectly, submitted its 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.

Executed under penalty of perjury under the laws of the State of California:

(Name of Bidder)

(Signature of Principal)

Subscribed and sworn before me _____

This _____ day of _____, 20____

Notary Public of the State of _____

In and for the County of _____

My Commission expires _____ (Seal)

NOTE: If Bidder is a partnership or a joint venture, this affidavit must be signed and sworn to by every member of the partnership or venture.

NOTE: If Bidder [including any partner or venturer of a partnership or joint venture] is a corporation, this affidavit must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer.

NOTE: If Bidder's affidavit on this form is made outside the State of California, the official position of the person taking such affidavit shall be certified according to law.

-END OF DOCUMENT-



DOCUMENT 00 50 20

BID ADDENDUM NO. _____

PROJECT TITLE: _____

PROJECT NO. _____

DATE: _____

TO: All Prospective Bidders and Plan Holders of Record

BY THIS NOTICE, the City of San Bruno hereby amends the referenced project bid documents as follows:

Additions are shown in underline. Deletions are shown in ~~strikeout~~.

1. Revisions, Modifications.
2. Revisions, Modifications.

This Bid Addendum No. ____ shall become part of the Contract Documents and all provisions of the Contract shall apply thereto. This Bid Addendum has been provided to all plan holders of record. **For a bid to be considered as responsive for the purposes of an award of contract, this Bid Addendum shall be acknowledged in the appropriate section of the Bid Form, Document 00 41 70 (Addenda Acknowledgement).**

ISSUED BY: _____
Name, Title

Date: _____

Attachments:

-END OF DOCUMENT-

DOCUMENT 00 51 00

NOTICE OF AWARD

Dated: _____

TO: _____

ADDRESS: _____

CONTRACT: _____

PROJECT NO.: _____

The City Council has awarded _____ the
_____ Project for the Contract Sum of
_____.

1. Enclosed are contract documents for your execution:
 - 00 52 00 Contract Agreement (will be sent via DocuSign for Signature).
 - 00 61 13.13 Construction Performance Bond.
 - 00 61 13.16 Construction Labor and Materials Payment Bond.
 - Business License Application.
2. Please return the following by 5:00 p.m. _____ (Date) _____ (the 10th Working Day following the date of this Notice of Award).
 - a. Fully DocuSigned Document 00 52 00 (Contract Agreement).
(Please **DO NOT** date the first page of the contract agreement).
 - b. One (1) original of Document 00 61 13.13 (Construction Performance Bond),
executed by you and your surety.
 - c. One (1) original of Document 00 61 13.16 (Construction Labor and Materials
Payment Bond), executed by you and your surety.
 - d. One (1) original set of insurance certificates with endorsements in accordance
with Section 4 of Document 00 72 00 (General Conditions) of the bid documents.
The City of San Bruno is to be named as additional parties insured.
 - e. Obtain a San Bruno Business License. For further information please visit
<https://sanbruno.hdlgov.com/Apply/GettingStarted/BusinessLicense> or contact
City of San Bruno Business Support Center at (650) 273-4371
(email: sanbruno@hdlgov.com).

3. Failure to comply with these conditions within the time specified will entitle City to consider your bid abandoned, to annul this Notice of Award, and to declare your Bid Security forfeited.
4. Within 21 Days after you have provided the documents specified in Paragraph 2 above, the City will return to you one fully signed counterpart of Document 00 52 00 (Contract Agreement).
5. Before you may start any work at the Site, you must attend a preconstruction conference with the City staff. The preconstruction conference may be arranged through the Department of Public Works, Administration & Engineering, Attn: _____ at (650) 616-7065. All correspondence and inquiries regarding the Project should be directed to _____ at (650) 616-7065, email: _____.
6. Upon commencement of the work, you and each of your subcontractors shall certify and provide the City with copies of payroll records on forms provided by the Division of Labor Standards Enforcement, in accordance with California Labor Code §1776.

CITY OF SAN BRUNO

BY: _____
Name and Title

AUTHORIZED BY CITY RESOLUTION NO.: _____

ADOPTED: _____
(Date)

-END OF DOCUMENT-

DOCUMENT 00 52 00
CONTRACT AGREEMENT

PROJECT TITLE

THIS AGREEMENT was executed this _____ day of _____, 20____ by and between **[Name of Contractor]** whose place of business is located at **[Address of Contractor]** (“Contractor”), and the CITY OF SAN BRUNO (“City”), acting under and by virtue of the authority vested in the City by the laws of the State of California.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and City agree as follows:

Article 1. Work

- 1.1 Contractor shall complete all Work specified in the Contract Documents, in accordance with the Plans, Specifications, and all other terms and conditions of the Contract Documents.

Article 2. Architect/Engineer and Project Manager

- 2.1 The City Engineer and its authorized vendor designed the Project and furnished the Plans and Specifications. The City Engineer shall have the rights assigned to Architect/Engineer in the Contract Documents.
- 2.2 City has designated the City Engineer as its Project Manager to act as City’s point of contact relating to the Contract Documents and to determine whether the work performed is in accordance with the Contract Documents.
- 2.3 The City may assign all or part of the Project Manager’s rights, responsibilities and duties to a Project or Construction Manager.

Article 3. Contract Time and Liquidated Damages

3.1 Contract Time

Contractor shall commence work on the date established in the Notice to Proceed. City reserves the right to modify or alter the commencement date of the Work. Contractor shall achieve Substantial Completion of the entire Work within _____ **Working Days** from the date when the contract time commences to run as provided in Document 00 72 00 (General Conditions). Contractor shall achieve Final Completion of the entire Work and be ready for Final Payment in accordance with Section 01 77 00 (Closeout Procedures) 20 Working Days from the date when Substantial Completion was established.

3.2 Liquidated Damages

City and Contractor recognize that time is of the essence of this Agreement and that City will suffer financial loss in the form of Contract administration expenses (such as project management and consultant expenses), if all or any part of the Work is not completed within the times specified above, plus any extensions thereof allowed in accordance with the Contract Documents. Contractor and City agree that because of the nature of the Project, it would be impractical or extremely difficult to fix the amount of actual damages incurred by City because of a delay in completion of all or any part of the Work. Accordingly, City and Contractor agree that as liquidated damages for delay Contractor shall pay City:

3.2.1 _____ dollars (\$_____) for each Day that expires after the time specified herein for Contractor to achieve Substantial Completion of the entire Work, until achieved.

3.2.2 _____ dollars (\$_____) for each Day that expires after the time specified herein for Contractor to achieve Final Completion of the entire Work, until achieved.

These measures of liquidated damages shall apply cumulatively and except as provided below, shall be presumed to be the damages suffered by City resulting from delay in completion of the Work.

3.3 Liquidated damages for delay shall only cover administrative, overhead, interest on bonds, and general loss of public use damages suffered by City as a result of delay. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from defective work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from City (for example, delay claims of other contractors, subcontractors, tenants, or other third-parties), and defense costs thereof.

3.4 It is further agreed that prior to issuance of a Notice of Completion under the terms of this Contract, and as a condition precedent to the City's obligation for the issuance of the Notice of Completion and Final Payment, the Contractor shall submit to the City a "Maintenance and Warranty Bond" to be valued at ten percent (10%) of the final contract amount. Such Bond shall be in force and valid for a period of one (1) year unless extended.

Article 4. Contract Sum

4.1 City shall pay Contractor the Contract Sum of _____

Dollars (\$_____) for completion of Work in accordance with Contract Documents as set forth in Contractor's Bid, attached hereto.

Article 5. Contractor's Representations

In order to induce City to enter into this Agreement, Contractor makes the following representations and warranties:

- 5.1 Contractor has visited the Site and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.
- 5.2 Contractor has examined thoroughly and understood all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, products specifications or reports, available for Bidding purposes, of physical conditions, including Underground Facilities, which have been made available for Bidders or which may appear in the Drawings. Contractor accepts the determination set forth in these Documents and Document 00 72 00 of the limited extent of the information contained in such materials upon which Contractor may be entitled to rely. Contractor agrees that except for the information so identified, Contractor does not and shall not rely on any other information contained in such reports and drawings.
- 5.3 Contractor has conducted or obtained and has understood all such examinations, investigations, explorations, tests, reports and studies (in addition to or to supplement those referred to in Section 5.2 of this Agreement) that pertain to the subsurface conditions, as-built conditions, Underground Facilities and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance or furnishing of Work, as Contractor considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Document 00 72 00; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by Contractor for such purposes.
- 5.4 Contractor has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

Article 6. Contract Documents

- 6.1 Contract Documents consist of the Project Manual and include the following documents, and all changes, Addenda, and Modifications thereto:

Document 00 10 00	Notice Inviting Bids
Document 00 21 00	Instructions to Bidders
Document 00 24 13	Scopes of Bids

Document 00 41 00	Bid Proposal
Document 00 41 70	Addenda Acknowledgement
Document 00 51 00	Notice of Award
Document 00 52 00	Contract Agreement
Document 00 61 13.13	Construction Performance Bond
Document 00 61 13.16	Construction Labor and Material Payment Bond
Document 00 72 00	General Conditions
Document 00 73 00	Special Conditions

General Requirements
Technical Specifications
Drawings Sheet 1 thru _____

- 6.2 The Contract Documents may only be amended, modified or supplemented as provided in Document 00 72 00.

Article 7. Miscellaneous

- 7.1 Terms and abbreviations used in this Agreement are defined in Document 00 72 00 and Section 01 42 16 (Definitions) and will have the meaning indicated therein.
- 7.2 It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of City or acting as an employee, agent, or representative of City, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of the City is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.
- 7.3 Contractor shall not assign any portion of the Contract Documents without the City's prior approval. Any assignment of any portion of the Contract Documents without the City's prior written approval shall be deemed null and void. Contractor may subcontract portions of the Contract Documents only in compliance with the Subcontractor Listing Law, California Public Contract Code Section 4100, *et seq.*
- 7.4 The Contract Sum includes all allowances (if any).
- 7.5 In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. §15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time City tenders final payment to Contractor, without further acknowledgment by the parties.
- 7.6 Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by

Director of the State of California Department of Industrial Relations, are deemed included in the Contract Documents and on file at City's Office, and shall be made available to any interested party on request. Pursuant to California Labor Code Section 1861, Contractor represents that it is aware of the provisions of Section 3700 of the 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 Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.

- 7.7 Should any part, term or provision of this Agreement or any of the Contract Documents, or any document required herein or therein to be executed or delivered, be declared invalid, void or unenforceable, all remaining parts, terms and provisions shall remain in full force and effect and shall in no way be invalidated, impaired or affected thereby. If the provisions of any law causing such invalidity, illegality or unenforceability may be waived, they are hereby waived to the end that this Agreement and the Contract Documents may be deemed valid and binding agreements, enforceable in accordance with their terms to the greatest extent permitted by applicable law. In the event any provision not otherwise included in the Contract Documents is required to be included by any applicable law, that provision is deemed included herein by this reference (or, if such provision is required to be included in any particular portion of the Contract Documents, that provision is deemed included in that portion).
- 7.8 This Agreement and the Contract Documents shall be deemed to have been entered into in the City of San Bruno, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in San Mateo County Superior Court. Contractor accepts the terms of Document 00 72 00, Article 12, as a claims procedure by agreement under the California Government Code, Title 1, Division 3.6, Part 3, Chapter 5.

IN WITNESS WHEREOF the parties have executed this Agreement in duplicate the day and year first above written.

CONTRACTOR: [CONTRACTOR'S NAME]

By: _____

By: _____

Its: _____

Its: _____

Title (If corporation: Chairman,
President, or Vice President)

Title (If corporation: Secretary, Chief
Financial Officer or Assistant Treasurer)

Contractor's San Bruno Business
License number

CITY OF SAN BRUNO

By: _____
City Manager

Date: _____

(Council Action dated _____)

Attest: _____
City Clerk

APPROVED AS TO FORM

By: _____
City Attorney

Attachments:

-END OF DOCUMENT-

DOCUMENT 00 52 17

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS (“Agreement and Release”), made and entered into this ___ day of _____ 20___, by and between the City of San Bruno (“City”), and _____ (“Contractor”), whose place of business is at _____.

RECITALS

A. City and Contractor entered into Contract Number (the “Contract”) for construction of the City of San Bruno _____
Project located at _____, San Bruno, California.

AGREEMENT

NOW THEREFORE, it is mutually agreed between City and Contractor as follows:

1. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____

2. Subject to the provisions of this Agreement and Release, City will forthwith pay to Contractor the sum of _____ Dollars and _____ Cents (\$_____) under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with City as of the date of such payment.

3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against City arising from the Contract, except for the claims described in Paragraph 4 of this Document. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against City, and all if its agents, employees, consultants, inspectors, representatives,

assignees and transferees, except for the Disputed Claims set forth in Paragraph 4 of this Document. Nothing in this Agreement and Release shall limit or modify Contractor’s continuing obligations described in Paragraph 6 of this Document.

4. The following claims submitted under Document 00 72 00 (General Conditions), Article 12, are disputed (hereinafter, the “Disputed Claims”) and are specifically excluded from the operation of this Agreement and Release.

Claim No.	Date Submitted	Description of Claim	Amount of Claim

5. Consistent with California Public Contract Code §7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 2 of this Document, Contractor hereby releases and forever discharges City, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.
6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
7. Contractor shall immediately defend, indemnify and hold harmless City, any of the City’s Representatives, Project Manager, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor’s suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Disputed Claims set forth in Paragraph 4 of this Document.
8. Contractor hereby waives the provisions of California Civil Code §1542, which provide as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM, MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR.

9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.
10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.
11. All rights of City shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

***** CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING *****

CONTRACTOR

By: _____
Signature

By: _____
Signature

Name: _____
Print

Name: _____
Print

Its: _____
Title

Its: _____
Title

CITY OF SAN BRUNO

By: _____
Signature

Name: _____
Print

Its: _____
Title

-END OF DOCUMENT-

DOCUMENT 00 55 00

NOTICE TO PROCEED

Dated: _____

TO: _____ **Contractor Name**

ADDRESS: _____

CONTRACT: San Bruno Corporation Yard EV Chargers Phase 2 Project

PROJECT NO.: 51035

This letter will serve as your Notice to Proceed of the subject construction project effective _____.

In accordance with Article 3 of Document 00 52 00 (Contract Agreement), you will have _____ Working days to complete the scope of work within the contract. For contractual purposes, working days charged will begin on _____, unless modified and agreed to in writing between the City and the Contractor.

Please direct all correspondence regarding this project to my attention and feel free to call me at (650) 616-7065 if you have any questions.

CITY OF SAN BRUNO

Print Name

Signature

Title

-END OF DOCUMENT-

DOCUMENT 00 61 13.13

CONSTRUCTION PERFORMANCE BOND

THIS CONSTRUCTION PERFORMANCE BOND ("Bond") dated the ____ day of _____, 20____, is in the penal sum of _____ which is one hundred percent of the Contract Sum, and is entered into by and between the parties listed below to ensure the faithful performance of the Construction Contract listed below. This Bond consists of this page and the Bond Terms and Conditions, Paragraphs 1 through 12, attached to this page. Any singular reference to _____ ("Contractor"), _____ ("Surety"), City of San Bruno ("City"), or other party shall be considered plural where applicable.

CONSTRUCTION CONTRACT: _____ Project

CONTRACT No.: _____

DATED _____, 20____, in the Amount of \$ _____ (the "Penal Sum").

CONTRACTOR AS PRINCIPAL

SURETY

(Corp. Seal)

(Corp. Seal)

Company Name

Company Name

Signature

Signature

Print Name

Print Name

Title

Title

Street Address

Street Address

City, State, Zip Code

City, State, Zip Code

BOND TERMS AND CONDITIONS

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to City for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.
2. If Contractor completely and properly performs all of its obligations under the Construction Contract, Surety and Contractor shall have no obligation under this Bond.
3. If there is no City Default, Surety's obligation under this Bond shall arise after:
 - 3.1 City has declared a Contractor Default under the Construction Contract pursuant to the terms of the Construction Contract; and
 - 3.2 City has agreed to pay the Balance of the Contract Sum:
 - 3.2.1 To Surety in accordance with the terms of this Bond and the Construction Contract; or
 - 3.2.2 To a contractor selected to perform the Construction Contract in accordance with the terms of this Bond and the Construction Contract.
4. When City has satisfied the conditions of Paragraph 3, Surety shall promptly (within 30 Days) and at Surety's expense elect to take one of the following actions:
 - 4.1 Arrange for Contractor, with consent of City, to perform and complete the Construction Contract (but City may withhold consent, in which case the Surety must elect an option described in Paragraphs 4.2, 4.3 or 4.4, below); or
 - 4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; provided, that Surety may not select Contractor as its agent or independent contractor without City's consent; or
 - 4.3 Undertake to perform and complete the Construction Contract by obtaining bids from qualified contractors acceptable to City for a contract for performance and completion of the Construction Contract and, upon determination by City of the lowest responsive and responsible Bidder, arrange for a contract to be prepared for execution by City and the contractor selected with City's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract; and, if Surety's obligations defined in Paragraph 6, below, exceed the Balance of the Contract Sum, then Surety shall pay to City the amount of such excess; or

- 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances and, after investigation and consultation with City, determine in good faith its monetary obligation to City under Paragraph 6, below, for the performance and completion of the Construction Contract and, as soon as practicable after the amount is determined, tender payment therefor to City with full explanation of the payment's calculation. If City accepts Surety's tender under this Paragraph 4.4, City may still hold Surety liable for future damages then unknown or unliquidated resulting from the Contractor Default. If City disputes the amount of Surety's tender under this Paragraph 4.4, City may exercise all remedies available to it at law to enforce Surety's liability under Paragraph 6, below.
5. If Surety does not proceed as provided in Paragraph 4, above, then Surety shall be deemed to be in default on this Bond ten Days after receipt of an additional written notice from City to Surety demanding that Surety perform its obligations under this Bond. At all times City shall be entitled to enforce any remedy available to City at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect Work, mitigate damages, advance critical Work to mitigate schedule delay, or coordinate Work with other consultants or contractors.
6. Surety's monetary obligation under this Bond is limited by the amount of this Bond identified herein as the Penal Sum. This monetary obligation shall augment the Balance of the Contract Sum. Subject to these limits, Surety's obligations under this Bond are commensurate with the obligations of Contractor under the Construction Contract. Surety's obligations shall include, but are not limited to:
- 6.1 The responsibilities of Contractor under the Construction Contract for completion of the Construction Contract and correction of Defective Work;
- 6.2 The responsibilities of Contractor under the Construction Contract to pay liquidated damages, and for damages for which no liquidated damages are specified in the Construction Contract, actual damages caused by non-performance of the Construction Contract including, but not limited to, all valid and proper backcharges, offsets, payments, indemnities, or other damages;
- 6.3 Additional legal, design professional and delay costs resulting from Contractor Default or resulting from the actions or failure to act of the Surety under Paragraph 4, above (but excluding attorney's fees incurred to enforce this Bond).
7. No right of action shall accrue on this Bond to any person or entity other than City or its successors or assigns.
8. Surety hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. Surety consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, Modification, deletion, or addition to the Contract Documents, or of the Work

- required thereunder, shall release or exonerate Surety on this Bond or in any way affect the obligations of Surety on this Bond.
9. Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction where a proceeding is pending between City and Contractor regarding the Construction Contract, or in the courts of the County of San Mateo, or in a court of competent jurisdiction in the location in which the Work is located. Communications from City to Surety under Paragraph 3.1 of this Bond shall be deemed to include the necessary agreements under Paragraph 3.2 of this Bond unless expressly stated otherwise.
 10. All notices to Surety or Contractor shall be mailed or delivered (at the address set forth on the signature page of this Bond), and all notices to City shall be mailed or delivered as provided in Document 00 52 00 (Contract Agreement). Actual receipt of notice by Surety, City or Contractor, however accomplished, shall be sufficient compliance as of the date received at the foregoing addresses.
 11. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein.
 12. Definitions
 - 12.1 Balance of the Contract Sum: The total amount payable by City to Contractor pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved Modifications to the Construction Contract.
 - 12.2 City Default: Material failure of City, which has neither been remedied nor waived, to pay Contractor progress payments due under the Construction Contract or to perform other material terms of the Construction Contract, if such failure is the cause of the asserted Contractor Default and is sufficient to justify Contractor termination of the Construction Contract.
 - 12.3 Construction Contract: The agreement between City and Contractor identified on the signature page of this Bond, including all Contract Documents and changes thereto.
 - 12.4 Contractor Default: Material failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract including, but not limited to, "default" or any other condition allowing a termination for cause as provided in Document 00 72 00 (General Conditions).

-END OF DOCUMENT-

DOCUMENT 00 61 13.16

CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

1. THAT WHEREAS, the City of San Bruno ("City") has awarded to _____ as Principal Contract Number 51035 dated the _____ day of _____, 20__ (the "Contract"), titled "San Bruno Corporation Yard EV Chargers Phase 2 Project", in the amount of _____, which Contract is by this reference made a part hereof, for the work generally described as follows:

2. AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;
3. NOW, THEREFORE, we, the undersigned Principal and _____, as Surety, are held and firmly bound unto City in the sum of 100% OF THE CONTRACT PRICE (\$_____) for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.
4. THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its executors, administrators, successors, or assigns approved by City, or its subcontractors shall fail to pay any of the persons named in California Civil Code §3181, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, plus reasonable attorneys' fees, otherwise the above obligation shall become and be null and void.
5. This bond shall inure to the benefit of any of the persons named in California Civil Code §3181, as to give a right of action to such persons or their assigns in any suit brought upon this bond. The intent of this bond is to comply with the California Mechanic's Lien Law.
6. Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or

addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.

7. Surety's obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing City's rights against the other.
8. Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this ____ day of _____, 20____.

CONTRACTOR AS PRINCIPAL

SURETY

(Corp. Seal)

(Corp. Seal)

Company Name

Company Name

Signature

Signature

Print Name

Print Name

Title

Title

Street Address

Street Address

City, State, Zip Code

City, State, Zip Code

-END OF DOCUMENT-

DOCUMENT 00 61 16

ESCROW AGREEMENT FOR SECURITY DEPOSIT IN LIEU OF RETENTION

California Public Contract Code §22300

THIS ESCROW AGREEMENT ("Escrow Agreement") is made and entered into this day of _____ 20____, by and between the City of San Bruno ("City"), whose address is 567 El Camino Real, San Bruno, California 94066 _____ ("Contractor"), whose place of business is located at _____; and _____, a state or federally chartered bank in the State of California, whose place of business is located at _____ ("Escrow Agent").

For the consideration hereinafter set forth, City, Contractor and Escrow Agent agree as follows:

1. Pursuant to California Public Contract Code §22300, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by City pursuant to Contract Number 51035 entered into between City and Contractor for the City of San Bruno San Bruno Corporation Yard EV Chargers Phase 2 Project in the amount of _____ dated _____, 20 (the "Contract"). Alternatively, on written request of Contractor, City shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify City within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between City and Contractor. Securities shall be held in name of _____, and shall designate Contractor as the beneficial owner.
2. City shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in Paragraph 1 of this Document.
3. When City makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when City pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of City. Such expenses and payment terms shall be determined by City, Contractor, and Escrow Agent.

5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to City.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from City to Escrow Agent that City consents to withdrawal of amount sought to be withdrawn by Contractor.
7. City shall have the right to draw upon the securities in event of default by Contractor. Upon seven Days written notice to Escrow Agent from City of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by City.
8. Upon receipt of written notification from City certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
9. Escrow Agent shall rely on written notifications from City and Contractor pursuant to Paragraphs 5 through 8, inclusive, of this Document and City and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.
10. Names of persons who are authorized to give written notice or to receive written notice on behalf of City and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

ON BEHALF OF CITY OF SAN BRUNO: ON BEHALF OF CONTRACTOR:

Title

Title

Name

Name

Signature

Signature

Address

Address

City/State/Zip Code

City/State/Zip Code

ON BEHALF OF ESCROW AGENT:

Title

Name

Signature

Address

City/State/Zip Code

-END OF DOCUMENT-

DOCUMENT 00 61 19

MAINTENANCE AND WARRANTY BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____ as Principal, and _____, as Surety, are held and firmly bound unto the **City of San Bruno** (hereinafter called the Oblige), in the penal sum of ___ Dollars (\$ _____) for the payment of which, well and truly to be made, we do hereby bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has heretofore entered into a contract with the Oblige for the San Bruno Corporation Yard EV Chargers Phase 2 Project. And,

WHEREAS, the work called for under said contract has now been completed and accepted by said Oblige;

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the said Principal shall for a period of **one (1)** year from and after the date of the completion of the contract indemnify the Oblige against any loss or damage directly arising by reason of any defect in the material or workmanship that may be discovered within the period aforesaid, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that in the event of any default on the part of the Principal, written statement of the particular facts showing such default and the date thereof shall be delivered to the Surety by registered mail, at its home office in the city of _____, promptly and in any event within ten (10) days after the Oblige or his representative shall learn of such a default; and that no claim, suit or action by reason of any default of the Principal shall be brought hereunder after the expiration of thirty days from the end of the maintenance period as herein set forth.

CONTRACTOR AS PRINCIPAL

SURETY

(Corp. Seal)

(Corp. Seal)

Company Name

Company Name

Signature

Signature

Print Name

Print Name

Title

Title

Street Address

Street Address

City, State, Zip Code

City, State, Zip Code

-END OF DOCUMENT-

DOCUMENT 00 63 25

SUBSTITUTION REQUEST FORM

To: City Engineer, City of San Bruno
(650) 616-7065

Project: San Bruno Corporation Yard EV Chargers Phase 2

Contractor: _____

Subcontractor/Supplier: _____

Drawing Sheet Reference/Detail No: _____

The undersigned Contractor hereby submits for consideration the following equipment instead of the specified item for the above Project:

<u>Section</u>	<u>Paragraph</u>	<u>Specified Item</u>
_____	_____	_____
_____	_____	_____

Proposed Substitution: _____

The Contractor must include all information required under Section 01 60 00 (Product Requirements).

The undersigned has (a) attached manufacturer's literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Contract Documents that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:

A. Does the substitution affect dimensions shown on Drawings?

B. Are the manufacturer's guarantees and warranties on the proposed substitution items identical to those on the specified items? If there are differences, please specify each and every difference in detail.

C. What effect does the substitution have on other contractors, trades, or suppliers?

D. What are the differences between the proposed substitution and the specified item?
If proposed substitution has a color or pattern, provide a color board showing
proposed substitution in relation to the other adjacent colors and patterns.

E. Will granting the requested substitution cause any schedule delay? (If yes, please
explain)

Submitted by:

The undersigned Contractor certifies that the function, appearance, and quality of the
proposed substitution are equivalent or superior to those of the specified item.

For Use by City:

Contractor

___ Accepted ___ Accepted as Noted

Signature

___ Not Accepted ___ Received Too Late

Name

By: _____
City's Representative

Address

Date: _____

City/State/Zip

Remarks: _____

Telephone: _____

Date: _____

-END OF DOCUMENT-

DOCUMENT 00 72 00
GENERAL CONDITIONS

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GENERAL CONDITIONS

1. GENERAL

1.1 Documents

Contract Documents are complementary; what is called for by one is as binding as if called for by all. Contract Documents shall not be construed to create a contractual relationship of any kind between (1) Architect/Engineer or any City Representative and Contractor; (2) City and/or its representatives and (except as provided in paragraph 13.9 below) a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (3) between any persons or entities other than City and Contractor. City shall be deemed to be an intended third-party beneficiary of each agreement referenced in clause (2) above, and each such agreement shall so provide. Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor.

1.2 Exercise Of Contract Responsibilities

In exercising its responsibilities and authorities under the Contract Documents, City does not assume any duties or responsibilities to any Subcontractor or supplier and does not assume any duty of care to Contractor, Contractor's Subcontractors or suppliers. Except as expressly set forth in the Contract Documents, in exercising their respective responsibilities and authorities under the Contract Documents, neither Engineer nor any City Representative assume any duties or responsibilities to any Subcontractor, sub-Subcontractor or supplier nor assume any duty of care to Contractor or any Subcontractor, sub-Subcontractor or suppliers.

1.3 Defined Terms

All abbreviations and definitions of terms used and not otherwise defined in this Document are set forth in Section 01 42 16 (Definitions). This Document subdivides at first level into Articles, and then into paragraphs.

2. BIDDING

2.1 Investigation Prior To Bidding

2.1A Prior to bidding, Bidders shall perform the work, investigations, research and analysis required by Article 5 of Document 00 52 00 (Contract Agreement). Under the Contract Documents, Contractor is charged with all information and knowledge that a reasonable Bidder would ascertain from having performed the required work, investigations, research, and analysis. Bid prices shall

include entire cost of all “incidental work” to complete the Work, as that term is defined in paragraph 5.1C of this Document.

- 2.1B Conditions Shown on Contract Documents:** Information as to underground conditions, as-built conditions, or other conditions or obstructions indicated in the Contract Documents, *e.g.*, on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. City warrants, and Contractor may rely on, the accuracy of only limited types of information as discussed below.
1. Aboveground and as-built conditions: There is no express or implied warranty and no express or implied representation that any information as to aboveground conditions or as-built conditions indicated in the Contract Documents is correctly shown, or indicated, or complete. As a condition to bidding, Contractor shall verify by independent investigation all aboveground and as-built conditions. In submitting its Bid, Contractor shall rely on the results of its own independent investigation and shall not rely on City-supplied information regarding aboveground conditions and as-built conditions.
 2. Subsurface conditions: Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. City is not responsible for (1) the completeness of any subsurface condition information for bidding or construction, (2) Contractor’s conclusions or opinions drawn from any subsurface condition information, or (3) subsurface conditions that are not specifically shown. (For example, City is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)
- 2.1C Conditions Shown in Reports and Drawings Supplied for Informational Purposes:** City may have made available during Bidding certain geotechnical reports, “as built” information, and other drawings or other documents describing physical conditions in or relating to existing surface or subsurface conditions or structures at or contiguous to the Site. These materials are not Contract Documents and, except for any “technical data” regarding actual subsurface conditions (such as actual reported soil types, obstructions, structures, materials encountered) and “Underground Facilities” data, Contractor shall not in any manner rely on the information in these materials. Subject to the foregoing, Contractor shall make its own independent investigation of all conditions affecting the Work and must not rely on information provided by City.

2.2 Subcontractors

- 2.2A Consistent with Public Contract Code Sections 4101 *et seq.*, Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Bid. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without City's written approval. At City's request, Contractor shall provide City with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.
- 2.2B Subcontract agreements shall preserve and protect the rights of City under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor's written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward City under the Contract Documents. (These agreements include for example, and not by way of limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)
- 2.2C Contractor shall provide for the assignment to City of all rights any Subcontractor may have against any manufacturer, supplier, or distributor for breach of warranties and guaranties relating to the Work performed by the Subcontractor under the Contract Documents.

3. COMMENCEMENT OF THE WORK

3.1 Commencement Of Work

- 3.1A The Contract Time will commence to run on the 30th Day after the issuance of the Notice of Award or, if a Notice to Proceed is given, on the date indicated in the Notice to Proceed. City may give a Notice to Proceed at any time within 30 Days after the Notice of Award. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run.

4. INSURANCE

4.1 Insurance Requirements

- 4.1A At or before the date specified in Document 00 21 00 (Instructions to Bidders), Contractor shall furnish to City satisfactory proof that Contractor has taken out for the entire period covered by the Contract the following classes of insurance in the form and with limits and deductibles specified below:
1. Comprehensive General Liability Insurance covering claims for personal injury, bodily injury and property damage arising out of the Work and in a form providing coverage not less than that of a Standard Commercial General Liability Insurance policy ("Occurrence Form"). Such insurance

shall provide for all operations and include independent contractors, products liability, completed operations for one year after Final Completion and acceptance of the final payment for the Work, contractual liability, and coverage for explosion, collapse, and underground hazards. The limits of such insurance shall not be coverage of less than \$2,000,000 each occurrence, \$4,000,000 general aggregate limit, and \$4,000,000 combined aggregate for products and completed operations. The policies shall be endorsed to provide Broad Form Property Damage Coverage.

2. Comprehensive Automobile Liability Insurance covering all owned, non-owned, and hired vehicles. Such insurance shall provide coverage not less than the standard Comprehensive Automobile Liability policy with limits not less than \$2,000,000 each person Bodily Injury, \$2,000,000 each occurrence Bodily Injury, and \$2,000,000 each occurrence Property Damage.
 3. All-Risk Course of Construction Insurance including damage to property owned by City, Contractor or third parties caused by fire. Insurance shall be in the amount of 100 percent of the completed value of the Work to be performed under this Contract. Deductible shall not exceed \$10,000. Each loss shall be borne by Contractor.
 4. Workers' Compensation Insurance for all persons whom the Contractor may employ in carrying out Work contemplated under Contract Documents, in accordance with the Act of Legislature of State of California, known as "Workers' Compensation Insurance and Safety Act," approved May 26, 1913, and all acts amendatory or supplemental thereto, in the statutory amount.
- 4.1.B All policies of insurance shall be placed with insurers acceptable to City. The insurance underwriter(s) for all insurance policies except Workers' Compensation shall have an A. M. Best Company rating of A-, VIII or better. Required minimum amounts of insurance may be increased should conditions of Work, in opinion of City, warrant such increase. Contractor shall increase required insurance amounts upon direction by City.
- 4.1.C Required Endorsements: The policies required under paragraphs 4.1.A.1 and 4.1.A.2 of this Document shall be endorsed as follows:
1. Name City, its City Council, and their employees, representatives, consultants, and agents, and Project Manager as additional insureds, but only with respect to liability arising out of the activities of the named insured.
 2. Each such policy shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limit of the insurance company's liability required under paragraphs 4.1.A.1 and 4.1.A.2 of this Document.

3. Insurance shall be primary to City and no other insurance or self-insured retention carried or held by City shall be called upon to contribute to a loss covered by insurance for the named insured.
- 4.1.D Certificates of insurance and endorsements shall have clearly typed thereon City Contract Number and title of Contract Documents. Written notice of cancellation, non-renewal, or reduction in coverage of any policy shall be mailed to City (Attention: Contract Administration/Inspection) at the address listed in Document 00 52 00 (Contract Agreement), 60 Days in advance of the effective date of the cancellation, non-renewal, or reduction in coverage. Written notice of cancellation for non-payment shall be mailed within 10 Days of cancellation. Contractor shall maintain insurance in full force and effect during entire period of performance of Contract Documents. Contractor shall keep insurance in force during warranty and guarantee periods, except that Contractor may discontinue All-Risk Course of Construction Insurance after Final Payment. At time of making application for extension of time, and during all periods exceeding the Contract Time resulting from any cause, Contractor shall submit evidence that insurance policies will be in effect during requested additional period of time. Upon City's request, Contractor shall submit to City, within 30 Days, copies of the actual insurance policies or renewals or replacements.
- 4.1.E Contractor shall pay all insurance premiums, including any charges for required waivers of subrogation or the endorsement of additional insureds. If Contractor fails to maintain insurance, City may take out comparable insurance, and deduct and retain amount of premium from any sums due Contractor under Contract Documents.
- 4.1.F If injury occurs to any employee of Contractor, Subcontractor or sub-subcontractor for which the employee, or the employee's dependents in the event of employee's death, is entitled to compensation from City under provisions of the Workers' Compensation Insurance and Safety Act, as amended, or for which compensation is claimed from City, City may retain out of sums due Contractor under Contract Documents, amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If City is compelled to pay compensation, City may, in its discretion, either deduct and retain from the Contract Sum the amount so paid, or require Contractor to reimburse City.
- 4.1.G Nothing in paragraph 4.1 of this Document shall be construed as limiting in any way the extent to which Contractor or any Subcontractor may be held responsible for payment of damages resulting from their operations.
- 4.1.H All Subcontractors shall maintain the same insurance required to be maintained by Contractor with respect to their portions of the Work, and Contractor shall cause the Subcontractors to furnish proof thereof to City within ten Days of City's request.

- 4.1.1 The following provisions apply to any licensed professional engaged by Contractor to perform portions of the Work (“Professional”).

Each Professional shall maintain the following insurance:

1. Professional Liability Insurance, insuring against professional errors and omissions arising from Professional’s Work on the Project, in an amount not less than \$2,000,000 combined single limit for each occurrence. If Professional cannot provide an occurrence policy, Professional shall provide insurance covering claims made as a result of performance of Work on this Project and shall maintain such insurance in effect for not less than two years following Final Completion of the Project.
2. All insurance required by paragraphs 4.1.A.1, 4.1.A.2, and 4.1.A.4 of Document 00 72 00. Professional shall satisfy all other provisions of paragraph 4.1 of this Document relating to that insurance, including without limitation providing required insurance certificates (containing the required endorsements) before commencing its Work on the Project.

5. DRAWINGS AND SPECIFICATIONS

5.1 Intent

- 5.1A Drawings and Specifications are intended to describe a functionally complete and operable Project (and all parts thereof) to be constructed in accordance with the requirements of Contract Documents. Contractor shall perform any work, provide services and furnish any materials or equipment that may reasonably be inferred from the requirements of Contract Documents or from prevailing custom or trade usage as being required to produce this intended result. Contractor shall interpret words or phrases used to describe work (including services), materials or equipment, that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings’ intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.
- 5.1B As part of the “Work,” Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, Shop Drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.

- 5.1C Contractor shall perform reasonably implied parts of Work as “incidental work” although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental Work includes any Work necessary or required to make each installation satisfactory, legally operable, functional, and consistent with the intent of Drawings and Specifications or the requirements of Contract Documents. Contractor shall perform incidental work without extra cost to City. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price Bid and Contract Sum.

5.2 Drawing Details

- 5.2A A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by City. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.

5.3 Interpretation Of Drawings And Specifications

- 5.3A Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in Drawings and Specifications, or should Contractor have any questions or requests relating to Drawings or Specifications, Contractor shall refer the matter to City, in writing. City will issue with reasonable promptness written responses, clarifications or interpretations as City may determine necessary, which shall be consistent with the intent of and be reasonably inferable from Contract Documents. Such written clarifications or interpretations shall be binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give City prompt written notice. If the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with City’s response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article 12 of this Document.

5.4 Checking Of Drawings

- 5.4A Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent figures shown in the Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have been avoided by such comparison. Figures shown on Drawings shall be followed; Contractor shall not scale measurements. Contractor shall promptly report

to City, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from City before proceeding with any Work affected thereby. Contractor shall provide City with a follow-up correspondence every ten Days until it receives a satisfactory interpretation or clarification.

5.5 Standards To Apply Where Specifications Are Not Furnished

5.5A The following general specifications shall apply wherever in the Specifications, or in any directions given by City in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work shall conform to the usual standards or codes, such as those cited in Section 01 42 16 (Definitions), for first-class Work of the kind required. Contractor shall specify in writing to City the materials to be used or Work to be performed under this paragraph 5.5A ten Business Days prior to furnishing such materials or performing such Work.

5.6 Deviation From Specifications And Drawings

- 5.6A Contractor shall perform Work in accordance with Drawings and Specifications. Contractor may deviate from Drawings or the dimensions given in the Drawings, and may deviate from the Specifications, only upon City's advance written approval of the proposed deviation.
- 5.6B City may order that locations, lines and grades for Work vary from those shown on Drawings. Changes may be made in locations, lines or grades for Work under any item of Contract Documents. No payment in addition to unit price fixed in the Contract Documents for Work under respective items will be allowed on account of variations from Drawings in unit price items. In lump sum contracts, or where there are no unit price items covering Work affected by variations of locations, lines or grades, all changes in the Contract Documents will be made as set forth in Article 14 of this Document.

5.7 Precedence Of Documents

- 5.7A In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:
1. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;
 2. Document 00 52 00 (Contract Agreement), and terms and conditions referenced therein;
 3. Document 00 73 00 (Special Conditions), if included;
 4. Document 00 72 00 (General Conditions);

5. Division 1 Specifications;
6. Division 2 Specifications;
7. Drawings;
8. Written numbers over figures, unless obviously incorrect;
9. Figured dimensions over scaled dimensions;
10. Large-scale drawings over small-scale drawings.

5.7B Any conflict between Drawings Specifications will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are the same or not determinable, then in favor of Specifications.

5.7C Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.

5.7D In the event the Specifications include divisions above Division 2 (e.g., Division 3 and above), then such divisions shall be included within the Contract Documents unless identified otherwise.

5.8 Ownership And Use Of Drawings, Specifications And Contract Documents

5.8A Drawings, Specifications and other Contract Documents were prepared for use for Work of Contract Documents only. No part of Contract Documents shall be used for any other construction or for any other purpose except with the written consent of City. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

6. CONSTRUCTION BY CITY OR BY SEPARATE CONTRACTORS

6.1 Construction By City Or By Separate Contractor

6.1A City may perform with its own forces, construction or operations related to the Project. City may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility owners perform other work. Contractor shall adjust its schedule and fully coordinate with and shall afford all other contractors, utility owners and City (if City is performing Work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others' work, and shall cooperate with them to facilitate the progress of the Work.

7. CITY REPRESENTATIVES AND AUTHORITIES

7.1 City Representative(s)

7.1A City representative(s) will have limited authority to act on behalf of City as set forth in the Contract Documents. Except as otherwise provided in these Contract Documents or subsequently identified in writing by City, City will

issue all communications to Contractor through City's representative, and Contractor shall issue all communications to City through City's representative in a written document delivered to City. Should any direct communications between Contractor and City's consultants, architects or engineers not identified in Article 2 of Document 00 52 00 (Contract Agreement) occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to City.

7.2 Means And Methods Of Construction

7.2A Subject to those rights specifically reserved in the Contract Documents, City will not supervise, or direct, or have control over, or be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. City will not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.

8. CONTROL OF THE WORK

8.1 Observation of Work By City and/or its Engineer

- 8.1A Work shall be performed under City's general observation and administration. Contractor shall comply with City's directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. City's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.
- 8.1B City may engage an independent consultant or engineer (collectively for purposes of this paragraph, "Engineer") to assist in administering the Work. If so engaged, Engineer will advise and consult with City, but will have authority to act on behalf of City only to extent provided in the Contract Documents or as set forth in writing by City. Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Engineer will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
- 8.1C Engineer may review Contractor's Submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents.
- 8.1D Engineer may visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract

Documents. Based on its observations, Engineer may recommend to City that it disapproves or rejects Work that Engineer believes to be Defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. City will also have authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.

- 8.1E Engineer may conduct inspections to recommend to City the dates that Contractor has achieved Substantial Completion and Final Acceptance, and will receive and forward to City for review written warranties and related documents required by Contract Documents.

8.2 Supervision of Work By Contractor

- 8.2A Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.

- 8.2B Contractor shall keep on the Site at all times during Work progress a competent resident Superintendent, who shall not be replaced without City's express written consent. The Superintendent shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent shall be as binding as if given to or by Contractor.

8.3 Access To Work

- 8.3A During performance of Work, City and its agents, officers, consultants, and employees may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as City's interests may require. Other contractors performing work for City may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.

8.4 Existing Utilities Shown Or Indicated In Contract Documents

- 8.4A Drawings or specifications may indicate above- and below-grade structures, drainage lines, storm drains, sewers, water, gas, electrical, chemical, hot water, and other similar items and utilities, and additional information may

be on file at the regional notification center, "Underground Service Alert" ("USA"). Contractor shall locate these known existing installations before proceeding with trenching or other operations that may cause damage, shall maintain them in service where appropriate, and shall repair any damage to them caused by the Work, at no increase in Contract Sum. Additional utilities whose locations are unknown to City are suspected to exist. Contractor shall be alert to their existence; if they are encountered, Contractor shall immediately report to City for disposition of the same. In addition to reporting if any utility is damaged, Contractor shall take appropriate action as provided in this Document. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document.

- 8.4B At no additional cost to City, Contractor shall incorporate into the Work main or trunk line utilities identified in the Contract Documents and other utilities or underground structures known or reasonably discernible and that will remain in service, including reasonable adjustments to the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor's operations. Should City determine that Contractor has not responded in a timely manner or not diligently pursued completion of the Work, City may restore service and deduct the costs of such action by City from the amounts due under the Contract.
- 8.4C Consistent with Government Code Section 4215, as between City and Contractor, City will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or information made available for bidding. City will compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or information made available for bidding with reasonable accuracy, and equipment on the Project necessarily idled during such Work.
- 8.4D Prior to performing Work at the Site, Contractor shall lay out the locations of known underground utilities that are to remain in service and other significant known underground installations. At no additional cost to City, prior to commencing other Work in proximity to such known underground utilities or installations that can be readily inferred from adjacent surface improvements, Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, such utilities or installations that are to remain and that are subject to damage.
- 8.4E Nothing in this shall be deemed to require City to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the Site can be inferred by Contractor from the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site.

Contractor shall immediately secure all available information and notify City and utility, in writing, of its discovery, while performing Work under the Contract Documents, of any utility facilities not identified in the Drawings and Specifications.

8.5 Protection Of Underground Facilities When Digging Trenches Or During Excavation

8.5A Before commencing work of digging trenches or excavation, Contractor shall review all information available regarding subsurface conditions, including but not limited to information supplied for bidding purposes, and subject to the terms and conditions of these documents. Contractor shall also comply with Government Code Sections 4216 to 4216.9, and in particular Section 4216.2 which provides, in part:

“Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two working days, but no more than 14 calendar days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation.

When the excavation is proposed within 10 feet of a high priority subsurface installation, the operator of the high priority subsurface installation shall notify the excavator of the existence of the high priority subsurface installation prior to the legal excavation start date and time, as such date and time are authorized pursuant to paragraph (1) of subdivision (a) of Section 4216.2. The excavator and operator or its representative shall conduct an onsite meeting at a mutually-agreed-on time to determine actions or activities required to verify the location of the high priority subsurface installations prior to start time.”

8.5B Contractor shall contact USA, and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching work, Contractor shall provide City with copies of all USA records secured by Contractor. Contractor shall advise City of any conflict between information provided for bidding purposes, the Drawings and specifications, and that provided by USA records. Contractor’s excavation shall be subject to and comply with the Contract Documents.

8.5C The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, but not limited to, information made

available for bidding and information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents, available information, or indicated by visual observation including, but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

- 8.5D If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by City for bidding or in information on file at USA or is otherwise reasonably available to Contractor, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency as required by Article 13 of this Document), identify the owner of such Underground Facility and give written notice to that owner and to City. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- 8.5E Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that is owned and was built by City only where the Underground Facility:
1. Was not shown or indicated in the Contract Documents or in the information supplied for bidding purposes or in information on file at USA; and
 2. Contractor did not know of it; and
 3. Contractor could not reasonably have been expected to be aware of it or to have anticipated it from the information available. (For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, then an increase in the Contract Price or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated in the Contract Documents, in the information supplied to Contractor for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor.)
- 8.5F Contractor shall bear the risk that Underground Facilities not owned or built by City may differ in nature or locations shown in information made available by City for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor. Underground Facilities are inherent in construction involving digging of trenches or other excavations, and Contractor is to apply its skill and industry to verify the information available.

9. WARRANTY, GUARANTY, AND INSPECTION OF WORK

9.1 Warranty And Guaranty

- 9.1A **General Representations and Warranties:** Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work and to complete Work in accordance with the terms of Contract Documents. Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in design, engineering, materials, construction and workmanship. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.
- 9.1B **Extended Guaranties:** Any guaranty exceeding one year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials and shall supply City with all warranty and guaranty documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers.
- 9.1C **Environmental and Toxics Warranty:** The covenants, warranties and representations contained in this paragraph 9.1C are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason including, but not limited to, Project completion. Contractor covenants, warrants and represents to City that:
1. To Contractor's knowledge after due inquiry, no lead or asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or asbestos-containing materials were discovered, Contractor made immediate written disclosure to City.
 2. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor's construction thereof.
 3. To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any

such materials were discovered, Contractor made immediate written disclosure to City.

4. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes, or regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide City with copies thereof.

9.2 Inspection Of Work

- 9.2A All materials, equipment, and workmanship used in Work shall be subject to inspection and testing at all times during construction and/or manufacture in accordance with the terms of the Contract Documents. Work and materials, and manufacture and preparation of materials, from beginning of construction until final completion and acceptance of Work, shall be subject to inspection and rejection by City, its agents, representatives or independent contractors retained by City to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, City shall be afforded access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.
- 9.2B Contractor shall give City timely notice of readiness of Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- 9.2C If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish City with the required certificates of inspection, or approval. City will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.
- 9.2D If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of City, Contractor shall

uncover the Work at City's request. Contractor shall bear the expense of uncovering Work and replacing Work.

- 9.2E In any case where Contractor covers Work contrary to City's request, Contractor shall uncover Work for City's observation or inspection at City's request. Contractor shall bear the cost of uncovering Work.
- 9.2F Whenever required by City, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, City, in manner herein prescribed for paying for alterations, modifications, and extra Work, except as otherwise herein specified, will pay for examination.
- 9.2G As necessary, City shall select testing agencies for the Project. A list of required structural tests and inspections prepared by the Engineer shall be provided to the designated testing agency prior to the start of construction.
- 9.2H The testing agency shall forward the test results to the Engineer, Contractor and City within 14 Days of the date of the test.
- 9.2I Inspection of the Work by or on behalf of City, or City's failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Contractor shall have an absolute duty, in the absence of a written Change Order signed by City, to perform Work in conformance with the Contract Documents.
- 9.2J Any inspection, evaluation, or test performed by or on behalf of City relating to the Work is solely for the benefit of City, and shall not be relied upon by Contractor. Contractor shall not be relieved of the obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations, or tests performed by City, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

9.3 Correction Of Defective Work

- 9.3A If Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, City may order Contractor to replace any Defective Work, or stop any portion of Work to permit City (at Contractor's expense) to replace such Defective Work. These City rights are entirely discretionary on the part of the City, and shall not give rise to any duty on the part of City to exercise the rights for the benefit of Contractor or any other party.

- 9.3B City may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, City may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct from moneys due Contractor, all such claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with City's calculations, it may make a claim as provided in Article 12 of this Document. City's rights under this paragraph 9.3B shall be in addition to any other rights it may have under the Contract Documents or by law.
- 9.3C **Correction Period:** If within one year after the date of Final Acceptance, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, whether a structure, equipment, machinery, facilities or otherwise, and whether completed or incomplete, is found to be Defective, Contractor shall promptly, without cost to City and in accordance with City's written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by City and replace it with Work that is not defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, City may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, City shall have all rights and remedies granted by law.
- 9.3D In special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order or Certificate of Substantial Completion.
- 9.3E Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been removed and replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one year after such removal and replacement has been satisfactorily completed.
- 9.3F If defects requiring correction by Contractor are found in any equipment, machinery, or facilities furnished by Contractor, City shall have the right to

operate such defective equipment or facilities and make reasonable use thereof until the equipment, machinery, or facilities can be shut down for correction of defects without causing injury to City.

9.4 Acceptance And Correction Of Defective Work By City

- 9.4A City may accept Defective Work. Contractor shall pay all claims, costs, losses and damages attributable to City's evaluation of and determination to accept such Defective Work. If City accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, City may deduct from moneys due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with City's calculations, Contractor may make a claim as provided in Article 12 of this Document. If City accepts any Defective Work after final payment, Contractor shall pay to City, an appropriate amount as determined by City.
- 9.4B City may correct and remedy deficiency if, after five Days' written notice to Contractor, Contractor fails to correct Defective Work or to remove and replace rejected Work in accordance with paragraph 9.3B of this Document; or provide a plan for correction of Defective Work acceptable to City; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, City may exclude Contractor from all or part of the Site; take possession of all or part of Work and suspend Contractor's Work related thereto; take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site; and incorporate in Work any materials and equipment stored at the Site or for which City has paid Contractor but which are stored elsewhere. Contractor shall allow City, its representatives, agents, employees, and other contractors and City's consultants access to the Site to enable City to exercise the rights and remedies under this paragraph 9.4B. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by City in exercising such rights and remedies. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, City may deduct from moneys due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with City's calculations, Contractor may make a claim as provided in Article 12 of this Document.

9.5 Rights Upon Inspection, Correction or Acceptance

- 9.5A Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by City of its rights and remedies under this Article 9. Where City exercises its rights under this Article 9, it retains all other rights it has by law or under the

Contract Documents including, but not limited to, the right to terminate Contractor's right to proceed with the Work under the Contract Documents for cause and/or make a claim or back charge where a Change Order cannot be agreed upon.

- 9.5B Inspection by City shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments or otherwise shall not operate to waive City's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of the Work paid therefor. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless City agrees otherwise in writing.
- 9.5C Neither acceptance of the whole or any part of Work by City nor any verbal statements on behalf of City or its authorized agents or representatives shall operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to City herein nor any right to damages provided in the Contract Documents. Any waiver of any breach of the Contract Documents shall not be held to be a waiver of any other subsequent breach.

9.6 Samples And Tests Of Materials And Work

- 9.6A Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, Samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare Samples or test specimens at its expense and furnish them to City. Contractor shall submit all Samples in ample time to enable City to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work.

9.7 Proof Of Compliance Of Contract Provisions

- 9.7A In order that City may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to City properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

10. CONTRACTOR'S ORGANIZATION AND EQUIPMENT

10.1 Contractor's Legal Address

- 10.1A Address and facsimile number given in Contractor's Bid are hereby designated as Contractor's legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to City, which in conspicuous language advises City of a change in legal address or facsimile number, and which City accepts in writing.

Delivery to Contractor's legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at legal address, or of any drawings, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor's designated facsimile number of any letter, memorandum, or other communication on standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

10.2 Contractor's Superintendents Or Forepersons

10.2A Contractor shall at all times be represented on Site by one or more superintendents or forepersons authorized and competent to receive and carry out any instructions that City may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Site.

10.3 Proficiency In English

10.3A Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

10.4 Contractor's And Subcontractors' Employees

10.4A Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If City notifies Contractor that any of its employees, or any of its Subcontractors' employees on Work is incompetent, unfaithful, disorderly or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses threatening or abusive language to any person on Work representing City, or violates sanitary rules, or is otherwise unsatisfactory, and if City requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such person from Work and the discharged person shall not be re-employed on the Work except with consent of City.

10.5 Contractor To Supply Sufficient Workers And Materials

10.5A Unless otherwise required by City under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.

- 10.5B At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified workers to prosecute the Work as required, then City may require Contractor to accelerate the Work and/or furnish additional qualified workers or materials as City may consider necessary, at no cost to City. If Contractor does not comply with the notice within three Business Days of date of service thereof, City shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as City may elect. City may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate Work elements during the time period that City exercises this right. City will deduct from moneys due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. City will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of City from claims of others.
- 10.5C Exercise by City of the rights conferred upon City in paragraph 10.5B of this Document is entirely discretionary on the part of City. City shall have no duty or obligation to exercise the rights referred to in paragraph 10.5B of this Document and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of City's right to exercise such rights in other concurrent or future similar circumstances. The rights conferred upon City under paragraph 10.5B of this Document are cumulative to City's other rights under any provision of the Contract Documents.

10.6 Contractor's Use Of The Site

- 10.6A Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between City and any owner, former owner or tenant of such land, structure or buildings. Contractor may not occupy City-owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior written approval from City.

10.7 Temporary Facilities

- 10.7A Unless expressly provided otherwise in the Contract Documents, Contractor shall provide all temporary electricity, water, telephone, sanitary facilities, barriers and enclosures, tree and plant protection, and any other necessary services required for construction, testing or completion of the Work and to assure non-interference with City operations, ingress or egress of the public to near the Site and public safety.

11. PROSECUTION AND PROGRESS OF THE WORK

11.1 Schedules And Examinations Of Contract Documents

- 11.1A Contractor shall submit schedules, reports, and Submittals in the appropriate quantity and within the required time, arrange conferences and meetings and proceed with the Work in accordance with Contract Documents, including Sections 01 31 19 (Project Meetings), 01 32 16 (Progress Schedules and Reports), and 01 33 00 (Submittal Procedures).
- 11.1B Contractor shall submit to City for review and discussion at the Preconstruction Conference described in Section 01 31 19 (Project Meetings):
1. Progress Schedules and Reports as required by Sections 01 32 16 (Progress Schedules and Reports) and 01 33 00 (Submittal Procedures).
 2. A preliminary schedule of Submittals that shall list each required Submittal and the times for submitting, reviewing and processing such Submittal. If no such schedule is agreed upon, then all Submittals shall be completed and submitted within 14 Days after the Notice of Award.
 3. A preliminary Schedule of Values for all the Work, which shall conform to Section 01 20 00 (Measurement and Payment).
- 11.1C Unless otherwise provided in the Contract Documents, at least 15 Days before submission of the first Application for Payment, a conference attended by Contractor, City, and others as appropriate, will be held to review for acceptability the schedules submitted in accordance with paragraph 11.1B of this Document and first reviewed at the Preconstruction Conference. Contractor shall have an additional seven Days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be due or owing to Contractor until the schedules are submitted to and acceptable to City and/or Project Manager as meeting the requirements of the Contract Documents. City's acceptance of Contractor's schedules will not create any duty of care or impose on City any responsibility for the sequencing, scheduling or progress of Work nor will it interfere with or relieve Contractor from Contractor's full responsibility.

11.2 Cost Data

- 11.2A Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work.
- 11.2B City shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of

Subcontractors working on Site. By way of example, City shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, Bid proposal and negotiation documents, cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. City and any other applicable governmental entity shall have the right to inspect all information and documents maintained under this paragraph 11.2B at any time during the Project and for a period of five years following Final Completion. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in the Contract Documents.

- 11.2C Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to City for reference. Upon completion of the Work, Contractor shall deliver to City, the Project Record Documents, Samples and Shop Drawings and as-built drawings..

12. CLAIMS BY CONTRACTOR

12.1 Obligation to File Claims for Disputed Work

- 12.1.A Should it appear to Contractor that the Work to be performed or any of the matters relative to the Contract Documents are not satisfactorily detailed or explained therein, or should any clarification, determination, action or inaction by City or Engineer, or any other event, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents in any way, or should any questions arise as to the meaning or intent of the Contract Documents, or should any dispute arise regarding the true value of any Work performed, Work omitted, extra Work that Contractor may be required to perform, time extensions, payment to Contractor during performance of this Contract, performance of the Contract, and/or compliance with Contract procedures, or should Contractor otherwise seek extra time or compensation FOR ANY REASON WHATSOEVER, then Contractor shall first follow procedures set forth in the Contract (including, without limitation, other Articles of this Document and Section 01 26 00.)
- 12.1.B If a dispute remains, then Contractor shall give written notice to City that expressly invokes this Article 12. City shall decide the issue in writing within 15 Days; and City's written decision shall be final and conclusive.
- 12.1.C If Contractor disagrees with City's decision, or if Contractor contends that City failed to provide a decision timely, then Contractor's SOLE AND

EXCLUSIVE REMEDY is to promptly file a written claim setting forth Contractor's position as required herein.

12.2 Form and Contents of Claim

12.2.A Contractor's written claim must identify itself as a "claim" under this Article 12 and must include the following: (1) a narrative of pertinent events; (2) citation to contract provisions; (3) theory of entitlement; (4) complete pricing of all cost impacts; (5) a critical path analysis (or a Time Impact Evaluation if so specified in Section 01 32 00) of all time delays that shows actual time impact on the critical path; (6) documentation supporting items 1 through 5; and (6) a verification under penalty of perjury of the claim's accuracy. The Claim shall be submitted to City within thirty (30) calendar Days of receiving City's written decision, or the date Contractor contends such decision was due, and shall be priced like a change order according to Section 01 26 00 herein, and must be updated monthly as to cost and entitlement if a continuing claim. Routine contract materials, for example, correspondence, RFI, Change Order requests, or payment requests shall not constitute a claim. Contractor shall bear all costs incurred in the preparation and submission of a claim.

12.3 Administration During/After Claim Submission

- 12.3.A City may in its discretion conduct an administrative hearing on Contractor's claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further evidence or analysis requested by City to evaluate and decide Contractor's claim. Notwithstanding and pending the resolution of any claim or dispute, Contractor shall diligently prosecute the disputed Work to final completion in accordance with City's determination.
- 12.3.B Upon receipt of Contractor's formal claim including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as required herein, City or its designee will review the issue and render a final determination.
- 12.3.C Claims shall be calculated in the same manner as Change Orders per Section 01 26 00 (Contract Modification Procedures). Except where provided by law, or elsewhere in these contract documents (if applicable), city shall not be liable for special or consequential damages, and contractor shall not include them in its claims. Contractor shall be limited in its recovery on claims to the change order calculations set forth in Section 01 26 00.
- 12.3.D After their submission, claims less than \$375,000 shall also be subject to the Local Agency Disputes Act.

12.4 Compliance

- 12.4.A The provisions of this Article 12 constitute a non-judicial claim settlement procedure, and also step one of a two step claim presentment procedure by agreement under Section 930.2 of the Government Code, and shall survive termination, breach or completion of the Contract Documents. Contractor shall bear all costs incurred in the preparation and submission of a claim. Pursuant to Government Code Section 930.2, the one-year period in Government Code section 911.2 to file a Government Code Section 910 claim (step two) shall be reduced to 150 Days. Any Section 910 claims shall be presented in accordance with the Government Code and shall affirmatively indicate Contractor's prior compliance with the claims procedure herein and previous dispositions under paragraph 12.B.3 above.
- 12.4.B Failure to submit and administer claims as required in Article 12 shall waive Contractor's right to claim on any specific issues not included in a timely submitted claim. Claim(s) or issue(s) not raised in a timely protest and timely claim submitted under this Article 12 may not be asserted in any subsequent litigation, Government Code Section 910 claim, or legal action. City shall not be deemed to waive any provision under this Article 12, if at City's sole discretion, a claim is administered in a manner not in accord with this Article 12.

13. LEGAL AND MISCELLANEOUS

13.1 Laws And Regulations

- 13.1A Contractor shall keep fully informed of and shall comply with all laws, ordinances, municipal code, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and persons connected with Work, and shall protect and indemnify City and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, municipal code, regulation, or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, municipal code, regulations and orders.
- 13.1B Whenever Drawings and Specifications require larger sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Drawings and Specifications shall govern. Whenever Drawings and Specifications require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.

13.2 Permits And Taxes

- 13.2A Contractor shall procure all permits and licenses applicable to the Work (including environmental matters to the extent applicable); pay all charges

and fees, including fees for street opening permits; comply with, implement and acknowledge effectiveness of all permits; initiate and cooperate in securing all required notifications or approvals therefore; and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. City will pay applicable building permits, sanitation and water fees for the completed construction, except as otherwise provided in the Contract Documents. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where City may have already obtained permits for the Work.

13.3 Responsibility Of Contractor And Indemnification

- 13.3A City and each of its officers, employees, consultants and agents including, but not limited to, the Board, City Engineer and each City Representative, shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.
- 13.3B To the furthest extent permitted by law (including without limitation California Civil Code Section 2782), Contractor shall assume defense of, and indemnify and hold harmless, City and each of its officers, employees, consultants and agents, including but not limited to the Board, Engineer and each City representative, from claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies and attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether it is caused in part by the negligence of City or by any person or entity required to be indemnified hereunder.
- 13.3C With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against City and each of its officers, employees, consultants and agents including, but not limited to City, the Board, Engineer and each City representative.

- 13.3D Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.
- 13.3E To the furthest extent permitted by law (including, without limitation, Civil Code Section 2782), the indemnities, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of contract, negligence (active or passive), fault or strict liability of the party(ies) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents. If Contractor fails to perform any of these defense or indemnity obligations, City may in its discretion back charge Contractor for City's costs and damages resulting therefrom and withhold such sums from progress payments or other contract moneys which may become due.
- 13.F The indemnities in the Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to City or other indemnified party to the extent of its active negligence.

13.4 Concealed Or Unknown Conditions

- 13.4A If either of the following conditions is encountered at Site when digging trenches or other excavations that extend deeper than four feet below the surface, Contractor shall give a written Notice of Differing Site Conditions to City promptly before conditions are disturbed, except in an emergency as required by paragraph 16.4A of this Document, and in no event later than seven Days after first observance of:
1. Subsurface or Latent physical conditions which differ materially from those indicated in the Contract Documents; or
 2. Unknown physical conditions of an unusual nature or which differ materially from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents.
- 13.4B In response to Contractor's Notice of Differing Site Conditions under this paragraph 13.4B, City will investigate the identified conditions, and if they differ materially and cause increase or decrease in Contractor's cost of, or time required for, performance of any part of the Work, City will negotiate an appropriate change order following the procedures set forth in the Contract Documents. If City determines that physical conditions at the Site are not Latent or are not materially different from those indicated in Contract Documents or that no change in terms of the Contract Documents is justified, City will so notify Contractor in writing, stating reasons (with Contractor retaining its rights under Article 12 of this Document.)
- 13.4C Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed Latent or materially different Site conditions (whether above or below grade) if Contractor knew or should

have known of the existence of such conditions at the time Contractor submitted its Bid, failed to give proper notice, or relied upon information, conclusions, opinions or deductions of the kind that the Contract Documents preclude reliance upon.

13.5 Notice Of Hazardous Waste Or Materials Conditions

13.5A Contractor shall give a written Notice of Hazardous Materials Condition to City promptly, before any of the following conditions are disturbed (except in an emergency as required by paragraph 16.4 of this Document), and in no event later than 24 hours after first observance of any:

1. Material that Contractor believes may be hazardous waste or hazardous material, as defined in Section 25117 of the Health and Safety Code (including, without limitation, asbestos, lead, PCBs, petroleum and related hydrocarbons, and radioactive material) that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law ("hazardous material"); or
2. Other material that may present an imminent substantial danger to persons or property exposed thereto in connection with Work at the Site ("other materials").

13.5B Except as otherwise provided in the Contract Documents or as provided by applicable law, Contractor shall not be required to give any notice for the disturbance or observation of any such hazardous materials or other materials where such matter is disturbed or observed as part of the scope of Work under the Contract Documents (such as hazardous waste or hazardous material investigation, remediation or disposal activities which are identified as the subject of Work under the Contract Documents), where Contractor complies with all requirements in the Contract Documents and applicable law respecting such materials.

13.5C Contractor's Notice of Hazardous Materials Condition shall indicate whether the hazardous materials or other materials were shown or indicated in the Contract Documents to be within the scope of Work, and whether the hazardous materials or other materials were brought to the Site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible.

13.5D Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials if:

1. Contractor knew of the existence of such hazardous materials or other materials at the time Contractor submitted its Bid; or
2. Contractor should have known of the existence of such hazardous material or other materials as a result of its having the responsibility to obtain additional or supplementary examinations, investigation, explorations, tests, studies, and data concerning the conditions at or contiguous to the Site prior to submitting its Bid; or
3. Contractor failed to give the written notice within the time required by paragraph 13.5A of this Document.

- 13.5E If City determines that conditions involve hazardous materials or other materials and that a change in Contract Document terms is justified, City will issue either a Request for Proposal or Construction Change Directive under the procedures described in the Contract Documents. If City determines that conditions do not involve hazardous materials or other materials or that no change in Contract Document terms is justified, City will notify Contractor in writing, stating the reasons for its determination.
- 13.5F In addition to the parties' other rights under paragraph 13.5E of this Document, if Contractor does not agree to resume Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, City may order the disputed portion of Work deleted from the Work, or performed by others, or City may invoke its right to terminate Contractor's right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant.
- 13.5G If Contractor does not agree with any City determination of any adjustment in the Contract Sum or Contract Time under this paragraph 13.5, Contractor may make a claim as provided in Article 12 of this Document.

13.6 Suspension Of Work

- 13.6A City may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as City may determine. An adjustment shall be made for increases in cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Section 01 26 00 (Contract Modification Procedures). No adjustment shall be made to extent that performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible.

13.7 Termination Of Contract For Cause

- 13.7A City may declare Contractor in default of the Contract Documents and City may terminate Contractor's right to proceed under the Contract Documents for cause, in whole or in part, should Contractor commit a material breach of the Contract Documents and not cure such breach within ten (10) calendar Days of the date of notice from City to Contractor demanding such cure; or, if such breach is curable but not curable within such ten (10) Day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of 10 calendar Days, Contractor must provide City within the ten (10) Day period with a written plan acceptable to City that demonstrates actual resources, personnel and a schedule to promptly to cure said breach, and then diligently commence and continue such cure according to the written plan.)
- 13.7B In the event of termination by City as provided above for cause, Contractor shall deliver to City possession of the Work in its then condition, including but not limited to, all designs, engineering, Project records, cost data of all

types, Drawings and Specifications and contracts with vendors and subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period. Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of the Contract Documents. The provisions of this Section shall not be interpreted to diminish any right which City may have to claim and recover damages for any breach of the Contract Documents or otherwise, but rather, Contractor shall compensate City for all loss, cost, damage, expense, and/or liability suffered by City as a result of such termination and/or failure to comply with the Contract Documents.

- 13.7C In the event a termination for cause is later determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience, and Contractor shall have the recovery rights specified in paragraph 13.8. Any Contractor claim arising out of a termination for cause, however, shall be made in accordance with Article 12 of this Document. No other loss, cost, damage, expense or liability may be claimed, requested or recovered by Contractor.

13.8 Termination Of Contract For Convenience

- 13.8A City may terminate performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever City shall determine that termination is in City's best interest. Termination shall be effected by City delivering to Contractor notice of termination specifying the extent to which performance of the Work under the Contract Documents is terminated, and the effective date of the termination.
- 13.8B Contractor shall comply strictly with City's direction regarding the effective date of the termination, the extent of the termination, and shall stop Work on the date and to the extent specified.
- 13.8C Contractor shall be entitled to a total payment on account of the Contract Work so terminated measured by (i.) the actual cost to Contractor of Work actually performed, up to the date of the termination, with profit and overhead limited to twelve percent (12%) of actual cost of Work performed, up to but not exceeding the actual contract value of the Work completed as measured by the Schedule of Values and Progress Schedule, (ii.) offset by payments made and other contract credits. In connection with any such calculation, however, City shall retain all rights under the Contract Documents, including but not limited to claims, indemnities, or setoffs.
- 13.8D Under no circumstances may Contractor recover legal costs of any nature, nor may Contract recover costs incurred after the date of the termination.

13.9 Contingent Assignment Of Subcontracts

- 13.9A Contractor hereby assigns to City each Subcontract for a portion of the Work, provided that:
1. The assignment is effective only after City's termination of Contractor's right to proceed under the Contract Documents (or portion thereof relating to that Subcontract) pursuant to paragraphs 13.7 or 13.8 of this Document.
 2. The assignment is effective only for the Subcontracts which City expressly accepts by notifying the Subcontractor in writing;
 3. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 00 61 13.13 (Construction Performance Bond) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;
 4. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense (except as otherwise provided in this Document), sign all instruments and take all actions reasonably requested by City to evidence and confirm the effectiveness of the assignment in City; and
 5. Nothing in this paragraph 13.9 shall modify or limit any of Contractor's obligations to City arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

13.10 Remedies And Contract Integration

- 13.10A Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter-claims, disputes and other matters in question between City and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the applicable court of competent jurisdiction located in the State of California for the City of San Bruno. All City remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances City shall have any and all other equitable and legal rights and remedies which it would have according to law.
- 13.10B The Contract Documents, any Contract Modifications, and Change Orders shall represent the entire and integrated agreement between City and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties' agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written modifications. City and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written modification in sole reliance upon

the information set forth or referenced in the Contract Documents or Contract Modifications and the parties are not and will not rely on any other information.

- 13.10C In any proceeding to enforce the Contract Documents, Contractor and City agree that the finder of fact shall receive detailed instructions on the meaning and operation of the Contract Documents, including their conditions, limitations of liability and remedies clauses, claims procedures and any other provisions impacting major defenses and theories of liability of the parties. Detailed findings of fact shall be requested, to verify Contract enforcement.
- 13.10D Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

13.11 Patents

- 13.11A Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Bid price for doing the Work. Contractor shall defend, indemnify and hold harmless City and each of its officers, employees, consultants and agents, including, but not limited to, the Board, Engineer and each City representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, royalties, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnitee or ordered by a court or administrative body of any competent jurisdiction.

13.12 Substitution For Patented And Specified Articles

- 13.12A Except as noted specifically in Document 00 21 00 (Instructions to Bidders), whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or approved equal" and Contractor may offer any substitute material or process that Contractor considers equal in every respect to that so designated and if material or process offered by Contractor is, in opinion of City, equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00 43

25 (Substitution Request Form) as provided in Document 00 21 00. A substitution will be approved only if it is a true "equal" item in every aspect of its design and quality, including but not limited to its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

13.13 Interest Of Public Officers

13.13A No representative, officer, or employee of City no member of the governing body of the locality in which the Project is situated, no member of the locality in which City was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

13.14 Limit Of Liability

13.14a City, and each of its officers, board members, employees, consultants and agents including, but not limited to, city engineer and each other city representative, shall have no liability to contractor for special, consequential, or incidental damages, except to the limited extent that these contract documents or applicable public contracting statutes may specify their recovery.

14. MODIFICATIONS OF CONTRACT DOCUMENTS

14.1 Alterations, Modifications And Force Account Work

14.1A No modification or deviation from the Drawings and Specifications will be permitted except by written addenda, written Change Order or written Supplemental Instruction. As appropriate, Change Orders are subject to approval by City.

14.1B City, before the date of completion of Work, may order changes in Work herein required, and may order extra materials and extra Work in connection with performance of Contract, and Contractor shall promptly comply with such orders. Any such orders shall be diligently carried out by Contractor in accordance with the Contract Documents. If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the time or cost of any part of Work, price fixed in Contract shall be increased or decreased by amount as Contractor and City may agree upon as reasonable and proper allowance for increase or decrease in cost of Work, and absent such agreement, then as City may direct (with Contractor retaining its rights under Article 12 herein).

14.1C City may, without notice to the sureties, make alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease

the quantity of any item or portion of the Work; expand, contract or otherwise change the Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, City reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such City-furnished labor, materials, and equipment.

- 14.1D Changes affecting the Contract Time or Contract Sum of the Work shall be set forth in a written Change Order that shall specify:
1. The Work performed in connection with the change to be made;
 2. The amount of the adjustment of the Contract Sum, if any, and the basis for compensation for the Work ordered; and
 3. The extent of the adjustment in the Contract Time, if any.
- 14.1E A Change Order will become effective when signed by City, notwithstanding that Contractor has not signed it.
- 14.1F Procedures for Modifications of Contract Documents and for calculating the cost of extra Work are given in Section 01 26 00 (Contract Modification Procedures). Regarding delay and impact costs of any nature, Contractor may not seek delay compensation for on-Site or off-Site costs based on formulas, e.g., "Eichlay" or other formula. Rather, Contractor shall prove actual costs resulting from such delays.
- 14.1G A performance bond rider covering the changed Work must be executed and delivered to City before proceeding with the changed Work.

15. TIME ALLOWANCES

15.1 Entitlement To Change Of Contract Time

- 15.1A The Contract Time may only be changed by Change Order or by Contract Modification, and all time limits stated in the Contract Documents are of the essence of Contract Documents.
- 15.1B The Contract Time may be adjusted in an amount equal to the time lost due to:
1. Changes in the Work ordered by City;
 2. Acts or neglect by City, Engineer, any City representative, utility owners or other contractors performing other work, provided that Contractor has fully and completely performed its responsibilities under the Contract Documents; or
 3. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise set forth in this paragraph 15.1, earthquakes, civil or labor disturbances, strikes or acts of God, provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents.

- 15.1C The Contract Time shall not be extended for any cause identified in paragraph 15.1B above, however, unless:
1. Contractor actually has been prevented from completing any part of the Work within the Contract Time due to delay that is beyond Contractor's control and due to reasons for which Contractor is not responsible (delays attributable to and within the control of a Subcontractor, or its subcontractors, or supplier shall be deemed to be delays within the control of Contractor);
 2. A claim for delay is made as provided herein; and
 3. Contractor submits a critical path analysis (or a Time Impact Evaluation if so specified in Section 01 32 00 that demonstrates actual delay to critical Work activities that actually delay the progress of the Work in the amount of time requested.

15.2 Weather Related Delays

- 15.2A Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed or referenced in this paragraph. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds these parameters on a monthly basis and Contractor proves that adverse weather actually caused delays. Contractor shall give written notice of intent to claim an adverse weather day within one Day of the adverse weather day occurring. Rain parameters are as follows, pro-rated in the individual month Contractor starts and finishes Work:

January, [8]; February, [7]; March, [6]; April, [3]; May, [1]; June, [0]; July, [0]; August, [0]; September, [0]; October, [2]; November, [4]; and December, [7].

In order to qualify as an adverse weather delay with respect to the foregoing parameters, daily rainfall must exceed .1 of an inch or more at the San Francisco California WSO (San Francisco Airport), California station, as measured by the National Oceanic & Atmospheric Administration, and Contractor shall prove that the rain actually caused delay as set forth in paragraph 15.3 of this Document. Notwithstanding the foregoing allowances, Contractor shall at all times employ all available mitigation measures to enable Work to continue. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed in this paragraph 15.2A.

- 15.2B Contractor shall include the foregoing precipitation parameters as a monthly activity in its progress schedule. As Work on the critical path is affected by precipitation, Contractor shall notify City and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float.
- 15.2C Adverse weather delay for precipitation shall be recognized for the actual period of time Contractor proves it was delayed by precipitation exceeding the specified parameters. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay

Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to City's satisfaction that precipitation exceeding the specified parameters causes delay to Contractor for a period longer than the number of precipitation Days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.

- 15.2D Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for City to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

15.3 Notice Of Delay

- 15.3A Within seven Days of the beginning of any delay, Contractor shall notify City in writing, by submitting a notice of potential claim, of all anticipated delays resulting from the delay event in question. Any request for extension of time shall be accompanied by Contractor's written statement that the adjustment claimed is the entire adjustment to which the claimant is entitled as a result of the occurrence of the delay event, and shall include a written schedule document that demonstrates delay to the critical path using a critical path analysis (or a Time Impact Evaluation if so specified in Section 01 32 00). City will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this paragraph.

15.4 Time Extensions And/Or Damages Entitlements For Delays

- 15.4A Contractor may receive a time extension and be compensated for delays caused directly and solely by City.
- 15.4.B Contractor may receive a time extension without compensation for delays resulting in whole or in part from causes beyond the reasonable control of Contractor and City including, without limitation, adverse weather conditions exceeding Contract Documents parameters, earthquakes, Acts of God and epidemics, and acts of public utilities. In such cases, a time extension without compensation shall constitute Contractor's sole and exclusive remedy for such delays.
- 15.4.C Contractor shall not be entitled to any time extension or compensation including, but not limited to, extended field or home office overhead, field supervision, costs of capital, interest, escalation charges, acceleration costs or other impacts for any delays caused in whole or in part by Contractor's failure to perform its obligations under the Contract Documents, or during periods of delay concurrently caused by Contractor and either City or others.
- 15.4.D Contractor shall not be entitled to damages for delay to the Work caused by the following reasons:

1. City's right to sequence the Work in a manner which would avoid disruption to City's tenants and their contractors or other prime contractors and their respective subcontractors, exercised as a result of Contractor's failure to perform its cooperation and coordination responsibilities required by Contract Documents; City's enforcement of any government act or regulation; or the provisions of the Contract Documents;
2. For changed Site conditions that are beyond the parties' contemplation, except that City may approve direct costs associated with unknown conditions (but not costs or damages which result from such delays); and
3. Extensive requests for clarifications to Contract Documents or Contract Modifications thereto, provided such clarifications or Contract Modifications are processed by City or its consultants in a reasonable time commensurate with Contract Documents requirements.

15.5 Liquidated Damages

15.5A Time is of the essence. Execution of Contract Documents by Contractor shall constitute acknowledgement by Contractor that Contractor understands, has ascertained and agrees that City will actually sustain damages in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion or extensions of time allowed pursuant to provisions hereof. Contractor and City agree that specified measures of liquidated damages shall be presumed to be the damages actually sustained by City as defined in Document 00 52 00 (Contract Agreement), and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.

15.5B City may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages. Should Contractor fall behind the approved Progress Schedule, City may deduct liquidated damages based on its estimated period of late completion. City need not wait until Final Completion to withhold liquidated damages from Contractor's progress payments. Should money due or to become due to Contractor be insufficient to cover aggregate liquidated damages due, then Contractor forthwith shall pay the remainder of the assessed liquidated damages to City.

16. WORKING CONDITIONS AND PREVAILING WAGES

16.1 Use Of Site/Sanitary Rules

16.1A All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor's and Subcontractors' employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public

observation, and shall be located, constructed and maintained subject to City's approval.

- 16.1B Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by City, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to the owner or occupant thereof resulting from the performance of Work.
- 16.1C During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall clean the site, remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery, surplus materials and SWPPP components. Contractor shall leave the premises clean and ready for occupancy by City at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.
- 16.1D Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.

16.2 Protection Of Work, Persons, Property and Operations

- 16.2A Contractor shall be responsible for initiating, maintaining and supervising all safety and site security precautions and programs in connection with Work, and shall develop and implement a site security and safety plan throughout construction. Contractor shall comply with all safety requirements specified in any safety program established by City, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all theft or damage to Work, property or structures, all injuries to persons, and all damage and interruptions to City's operations, arising from the performance of Work of the Contract Documents. Except as otherwise expressly approved by City in writing, Contractor shall at all times perform all Work in a manner which does not interrupt, damage or otherwise adversely impact any facilities, operations, or real or personal property of City, its officers, employees, agents, invitees, licensees, lessees or contractors.

- 16.2B Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
- 16.2C Contractor shall remedy all damage, injury, loss or interruption to any property or operations referred to in paragraph 16.2A of this Document, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. City and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work.
- 16.2D Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- 16.2E City may, at its option, retain such moneys due under the Contract Documents as City deems necessary until any and all suits or claims against Contractor for injury to persons, property or operations shall be settled and City receives satisfactory evidence to that effect.

16.3 Responsibility For Safety And Health

- 16.3A Contractor shall ensure that its and each tier of Subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and City's safety regulations as amended from time to time. Contractor shall comply with all City directions regarding protective clothing and gear.
- 16.3B Contractor shall be fully responsible for the safety of its and its Subcontractors' employees, agents and invitees on the Site. Contractor shall notify City, in writing, of the existence of hazardous conditions, property or equipment at the Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to persons or damage to the property of Contractor, Subcontractors or persons from recognized hazards until the responsible party corrects the hazard.
- 16.3C Contractor shall confine all persons acting on its or its Subcontractors' behalf to that portion of the Site where Work under the Contract Documents is to be performed, City-designated routes for ingress and egress thereto,

and any other City-designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

16.4 Emergencies

- 16.4A In emergencies affecting the safety or protection of persons or Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from City, is obligated to act to prevent threat and damage, injury or loss, until directed otherwise by City. Contractor shall give City prompt written notice if Contractor believes that any significant changes in Work or variations from Contract Documents have been caused thereby. If City determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will be issued to document the consequences of such action.

16.5 Use Of Roadways And Walkways

- 16.5A Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning any interference and only with City's prior concurrence, Contractor may provide detour or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost of these temporary facilities.

16.6 Nondiscrimination

- 16.6A No person or entity shall discriminate in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual preference, or gender of such persons, except as provided in Section 12940 of the Government Code. Every contractor for public works violating the provisions of Section 1735 of the Labor Code is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the Labor Code.

16.7 Prevailing Wages

- 16.7A Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (1) work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and City to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute

this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site.

- 16.7B Contractor shall forfeit, as a penalty to City, Fifty Dollars (\$50.00) for each laborer, workman, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles 1 and 2 of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this paragraph 16.7B and the terms of the Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document and the Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by City. The Labor Commissioner pursuant to Labor Code Section 1775 shall determine the final amount of forfeiture.
- 16.7C Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for Work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the Labor Code.
- 16.7D Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation Labor Code Section 1813. Failure to so comply, including without limitation Labor Code Section 1776, shall constitute a default under this Contract.
- 16.7E Contractor and its Subcontractors shall be responsible for compliance with Labor Code Section 1776.
1. Contractor and Subcontractors must keep accurate payroll records, showing the name, address, social security number, Work classification, straight time and overtime hours worked each Day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the Work of the Contract documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code Section 1776.
 2. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of Contractor as required by Labor Code Section 1776.
 - (a) Contractor shall inform the City of the location of records enumerated above, including the street address, city and County, and shall, within five working Days, provide a notice of a change of location and address.

(b) Contractor or Subcontractor has 10 Days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that Contractor or Subcontractor fails to comply with the ten-Day period, he or she shall, as a penalty to the City on whose behalf the contract is made or awarded, forfeit \$25.00 for each calendar Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this paragraph due to the failure of a Subcontractor to comply with this paragraph.

3. Contractor shall also deliver certified payrolls to City with each Application for Payment as described in Section 00 12 00 (Measurement and Payment).

16.7F No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

16.8 Environmental Controls

16.8A Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any Work performed under the Contract Documents including, without limitation, any toxic, water, stormwater management and soil pollution controls and air pollution controls specified in Government Code Section 11017. Contractor shall be responsible for insuring that Contractor's Employees, Subcontractors, and the public are protected from exposure to airborne hazards or contaminated water, soil, or other toxic materials used during or generated by activities on the Site or associated with the Project.

16.9 Shoring Safety Plan

16.9A Any conflict between this paragraph 16.9 and Division 2 of the Specifications shall be resolved in favor of the most stringent requirement.

16.9B At least five Days in advance of any excavation five feet or more in depth, Contractor shall submit to City a detailed plan showing the shoring, bracing and sloping design (including calculations) and other provisions to be made for worker protection from the hazard of caving ground during the

excavation, as required by Labor Code Section 6705. A civil or structural engineer registered in the State in which the Work is performed and retained by the Contractor shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.

- 16.9C During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. City's acceptance of any Drawings showing the shoring or bracing design or Work schedule shall not relieve Contractor of its responsibilities under this paragraph 16.9.
- 16.9D Appoint a qualified supervisory employee who shall be responsible to determine the sloping or shoring system to be used depending on local soil type, water table, stratification, depth, etc.

-END OF DOCUMENT-

DOCUMENT 00 73 00

SPECIAL CONDITIONS

1. Construction equipment and materials may be stored within the public right-of-way but must be moved every five (5) days as construction progresses. Material storage at the construction site shall be limited to what is needed for five (5) days construction. No construction material shall be stored over the weekend unless approved by the City Engineer. Operating reflector barricades shall be required for all equipment and material left on the street overnight. At the end of each workday all loose material, parts and debris must be cleaned up and discarded and any stored materials shall be neatly stacked and organized.

Failure to comply with these requirements shall result in liquidated damages in the amount of **\$250** per **Calendar Day**.

2. The construction site and any off-site staging areas must be secured by temporary chain linked fencing, with a minimum height of 72 inches, unless the building code requires additional protection. The chain link fence is to be made of galvanized steel and must include a top and bottom rail. The fencing must be adequately anchored to prevent movement and the effects of wind. No visible gaps in the fencing are allowed, including between panels or under them. Gates must be sliding or in-swinging and close tightly with no gaps in or around them.

When the construction site or off-site staging area is adjacent to any public right-of-way, the fence adjacent to the right-of-way shall have a visual/dust barrier or screening. The screen is to be constructed of green knitted polyethylene or canvas securely fixed to the inside face of the fencing and shall be maintained in a taut condition throughout the project. No twisted wire is to protrude on the exterior side of the fence. No tears or rips greater than 2" in any dimension will be allowed. Any screening that is torn or ripped or fencing or barricades that have been defaced will be replaced at the contractor's expense within 48 hours.

In addition to the required screening, any wood barricades or temporary chain link fencing facing a public roadway shall be setback two (2) feet from any property line or sidewalk, if site conditions allow. All areas visible from the public right-of-way shall be maintained free of weeds and litter.

Any construction site or staging area fencing facing a public roadway shall include a sign, securely installed on the fence that is made of durable and waterproof materials that provides the following information: the name and emergency contact telephone number of the general contractor. The sign lettering shall be large enough to be read from 10 feet away and the sign shall not extend above the top of the fence. The sign language and graphics need to be approved by City staff prior to installation.

Failure to comply with these requirements shall result in liquidated damages in the amount of **\$250** per **Calendar Day**.

3. Contractor shall protect-in-place the monument and ensure that the monument is not disturbed. If the monument is disturbed or damaged, the Contractor shall be responsible to reset the monument, including filing new corner records with County as required per Monument Preservation. Full compensation for handling replacement units is considered as included in the contract unit price paid and no separate payment will be made.
4. No work shall be permitted December 24 through January 1. Said days shall not be considered working days.
5. No Parking Signs to be posted and the Police Department notified at least **72 hours** in advance of no parking dates. Posted no parking dates must coincide with the actual scheduled work days for each individual street. Remove signs by the end of the work day if determined that work will not be occurring on the posted dates.
6. Contractor notification prior and during construction.
 - a. Notification to the public shall happen at the beginning of the project to all residents and businesses after the contractor receives the notice to proceed with a schedule list of anticipated streets to be worked on.
 - b. For construction for a particular area of the project, notice shall be given no less than 72 hours prior to proceeding with road construction operations.
 - c. Contractor shall also notify the public if planned work for an area is postponed, no-parking signs will have to modified within the first 24 hours.
7. In the vicinity of any schools, the contractor shall not begin any operation before 9:00 A.M. when school is in session.
8. A Temporary Use Permit (TUP) shall be obtained by Contractor planning to operate a temporary use on private property for off-site storage, staging areas or parking facilities related to construction projects. The application shall be made at least sixty days in advance of the intended commencement date of the temporary use.
9. When working near or around existing trees contractor shall follow city standard Tree and arbor requirements as well as having an arborist on site at times where work is being performed over tree roots.
 - a. Do not trim, prune, remove, cut, deface, injure or destroy trees or shrubs outside the work area limits. Do not trim, prune, remove, deface, injure or destroy trees within the work area without permission from the Engineer.
 - b. **Protection:** Protect trees that are located near the limits of the Contractor's work areas which may possibly be defaced, bruised or injured or otherwise damaged by the Contractor's operations. No ropes, cables or guys shall be fastened to or attached to any existing nearby trees or shrubs for anchorages unless specifically authorized. Where such special emergency use is permitted, the Contractor shall be responsible for any damage resulting from such use.
 - c. **Trimming:** In the event the Engineer grants permission to do so, trim and seal tree limbs overhanging the line of the work and in danger of being damaged by

the Contractor's operations in accordance with recognized standards for such work. Remove other tree limbs under the direction of the Engineer & arborist, so that the tree will present a balanced appearance.

- d. **Treatment of Roots:** Do not cut roots unnecessarily during paving, base repair, excavating or trenching operations. Expose major roots (larger than 2-inches in diameter) encountered in the course of excavation and do not sever. Wrap them in burlap as a protective measure while exposed and request Engineer's or arborist direction regarding their continued protection or removal. In the event Engineer or arborist grants permission to remove, neatly trim major roots at the edge of the excavation or trench and paint them with a heavy coat of an approved tree seal.
 - e. **Repair or Restoration:** Repair or replace as specified by these specification and the Engineer or arborist any trees or other landscape features scarred or damaged by equipment or construction operations. The repair and/or restoration plan shall be favorably reviewed prior to its initiation.
10. The Contractor shall maintain continuous coordination with PG&E for all work associated with the new electrical service. No onsite construction related to the new service shall begin until PG&E's design up to the new meter location is fully completed, approved, and the Contractor has received written confirmation from PG&E that their construction schedule aligns with the Contractor's planned activities.
11. The City and the Contractor shall not be held liable for any delays, impacts, or consequential damages arising from PG&E's design or construction schedule.
12. If the Contractor performs any work prior to completing the required coordination with PG&E and obtaining written authorization, the Contractor shall, at no additional cost to the City, perform all corrective work required by the City. This includes, but is not limited to, removal, demolition, reconstruction, or modification of any work installed out of sequence, improperly coordinated, or inconsistent with PG&E requirements. All such corrective work shall be performed as directed solely at the discretion of the City.
13. Contractor shall provide written notice to the City not less than five (5) working days prior to starting any work that will result in power disruptions to the Corporation Yard facility.

-END OF DOCUMENT-

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Contractor shall perform all work necessary to complete the Contract in a satisfactory manner. Furnishing transportation, labor, materials, equipment, and incidentals necessary to perform the work including but not limited to the following:
1. Trenching and pavement restoration
 2. Installing below-grade and above-grade conduits and wires
 3. Installing reinforced concrete pads for equipment
 4. Installing electrical service equipment
 5. Installing EV Chargers and Automatic Load Management Systems
 6. Temporary traffic control per Section 01 51 00 (Temporary Facilities and Control).
 5. Site cleaning and removal of debris, equipment, and excess material from the sites upon completion of work
 6. Other work as shown on Drawings

1.2 WORK DAYS AND HOURS

- A. Working Days and hours: Monday-Thursday inclusive, **7:00 a.m.- 6:00 p.m.** local time.
- B. Work at the Site on Fridays, weekends or holidays is not permitted, unless Contractor requests otherwise from City in writing at least 72 hours in advance and City approves in its sole discretion.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

-END OF SECTION-

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SECTION 01 20 00

MEASUREMENT AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Document describes the manner in which the amount of payments to the Contractor will be established.
- B. Definitions of the Bid Items identified in the Document 00 41 00 (Bid Proposal), and in conjunction with this Section, is listed in Document 00 24 13 (Scopes of Bids).

1.2 REFERENCES

- A. California Public Contract Code
- B. California Code of Civil Procedures
- C. California Government Code

1.3 SCOPE OF WORK

- A. The Contract Sum for performance of the Work under Contract Documents, or under any bid item, allowance, or alternate, shall include full compensation for all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of the Work, whether or not expressly specified or indicated.

1.4 DETERMINATION OF QUANTITIES

- A. Quantity of Work to be paid for under any item for which a unit price is fixed in Contract Documents shall be, as determined by City, number of units of Work satisfactorily completed in accordance with Contract Documents or as directed by City. Unless otherwise provided, determination of number of units of Work so completed will be based, so far as practicable, on actual measurement or count within prescribed or ordered limits, and no payment will be made for Work done outside of limits. Unit Prices shall apply to Work covered by unit prices so long as actual quantities performed on the Project are **[not less than 75 percent or greater than 125 percent]** of the estimated quantities contained in Document 00 41 00 (Bid Proposal) or otherwise referenced in Document 00 24 13 (Scopes of Bids). If actual quantities exceed these parameters, then the unit price shall be adjusted by an amount to reflect the Contractor's incremental cost differential resulting from increased or decreased economies of scale.

1.5 BASIS OF PAYMENT

- A. Unit Price Quantities: When estimated quantity for specific portions of Work is listed in Bid Proposal, quantity of Work to be paid for shall be actual number of units

satisfactorily completed, as determined by City and certified by Contractor, in accordance with the Contract Documents.

- B. Lump Sum: When estimated quantity for specific portion of Work is not indicated and Work is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
- C. Allowances: Allowance items (if any) will be paid for as provided in Document 00 24 13 (Scopes of Bids) and Document 00 41 00 (Bid Proposal). Funds authorized for Allowance Work will not be released for Contract payments unless City has authorized Allowance Work in writing. Unused allowance amounts at Contract completion shall reduce the Contract price accordingly.
- D. Alternates: Alternate items (if any) will be paid for as provided in Document 00 24 13 (Scopes of Bids) and Document 00 41 00 (Bid Proposal). City will determine whether to include all or some the Alternates Work as part of the Contract prior to contract award.
- E. City does not expressly, or by implication, agree, warrant, or represent in any manner, that actual amount of Work will correspond with amount shown or estimated and reserves right to increase or decrease amount of any class or portion of Work, to delete entire Bid item or items, or to add work not originally included in Bid or Contract Documents, when in its judgment such change is in best interest of City. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as otherwise expressly provided for in the Contract Documents, because of any differences between amount of Work actually done and estimated amount as set forth herein, or for elimination of Bid items.
- F. No payment shall be made for materials or equipment not yet incorporated into the Work, except as expressly specified otherwise in Section 01 11 00 (Summary of Work).

1.6 **PROGRESS PAYMENTS**

- A. If requested by Contractor, progress payments will be made monthly.
- B. Schedule of Values:
 - 1. Within ten (10) Days from issuance of Notice of Award and prior to the Contractor's first Application for Payment, Contractor shall submit a detailed breakdown of its Bid by scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities. Where more than one Subcontractor comprises the work of a Work item or activity, the Schedule of Values shall show a separate line item for each subcontract. Contractor shall furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Progress Schedule network activity, which cumulative sum equals the total Contract Sum. This breakdown shall be referred to as the Schedule of Values.

2. Contractor's overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid item) and/or other financing, as well as "general conditions costs," (e.g., Site cleanup and maintenance, temporary roads and access, off-Site access roads, temporary power and lighting, security, and the like), shall be prorated through all activities so that the sum of all the Schedule of Values line items equals Contractor's total Contract Sum, less any allowances designated by City. Scheduling, record documents and quality assurance control shall be separate line items.
 3. City will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, fair market cost allocations for the Work items listed. Upon favorable review by City, City will accept this Schedule of Values for use. City shall be the sole judge of fair market cost allocations.
 4. City will reject any attempt to increase the cost of early activities, i.e., "front loading," resulting in a complete reallocation of moneys until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to City.
- C. Monthly Report Sheets and Applications for Payment: Contractor shall establish and maintain records of cost of the Work in accordance with generally accepted accounting practices, reconcile the amount of Work completed monthly with City, and sign City's monthly report sheet certifying to the Work done. Monthly report sheets shall be considered the true record of the Cost of the Work and Contractor shall submit in a form acceptable to City an itemized cost breakdown of Contractor's record of Cost of the Work together with supporting data and any certification required by City. In addition:
1. On or before the sooner of (a) the 20th Day of each month and (b) receipt of City's approval of the updated Schedule as required by Section 01 32 16 (Progress Schedules and Reports), Contractor shall submit to City five copies of an Application for Payment for the cost of the Work put in place during the period from the 15th Day of the previous month to the 15th Day of the current month, along with one copy of the City-approved updated Schedule. Such Applications for Payment shall be for the total value of activities completed or partially completed, based upon Schedule of Values prices (or Bid Item prices if unit price) of all labor and materials incorporated in the Work up until midnight of the last Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as separate item in payment summary. City and Contractor will reconcile any differences in the field, based on the reconciled monthly report sheets. If Contractor is late submitting its Application for Payment, that Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor's Application for Payment being delayed for more than a Day-for-Day basis.
 2. Except as otherwise provided in a labor compliance program applicable to the Work (if any) or as otherwise required by City, concurrently with each Application

for Payment, Contractor shall submit to the City the Contractor's and its Subcontractors' certified payroll records required to be maintained pursuant to Labor Code Section 1776 for all labor performed during pay periods ending during the period covered by the Application for Payment.

3. No progress payment will be processed prior to City receiving all requested, acceptable schedule update information and certified payrolls. Failure to submit a schedule update complying with Section 01 32 16 (Progress Schedules and Reports) and certified payrolls complying with Labor Code Section 1776, justifies denying the entire Application for Payment in City's sole and absolute discretion.
4. Each Application for Payment shall list each Change Order and Construction Change Directive ("CCD") executed prior to date of submission, including the Change Order/CCD Number, and a description of the Work activities, consistent with the descriptions of original Work activities. Contractor shall submit a monthly Change Order/CCD status log to City.
5. If City requires substantiating data, Contractor shall submit information requested by City, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Contractor shall submit one copy of substantiating data and cover letter for each copy of Application for Payment submitted.
6. If Contractor fails or refuses to participate in monthly Work reconciliations or other construction progress evaluation with City, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information to City.

D. Progress Payments

1. City will review Contractor's Application for Payment following receipt. If adjustments need to be made to percent of completion of each activity, City will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
2. If City determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then City may approve the other portions of the Application for Payment, and in the case of disputed items or Defective Work not remedied, may withhold up to 150 percent of the disputed amount from the progress payment.
3. Pursuant to California Public Contract Code §20104.50, if City fails to make any progress payment within thirty (30) Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, City shall pay interest to the Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the California Code of Civil Procedure. The 30-Day period shall be reduced by the number of Days by which City exceeds the seven-Day return requirement set forth herein.

4. As soon as practicable after approval of each Application for Payment for progress payments, City will pay to Contractor in manner provided by law, an amount equal to ninety-five percent (95%) of the amounts otherwise due as provided in the Contract Documents, or a lesser amount if so provided in the Contract Documents, provided that payments may at any time be withheld if, in judgment of City, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected.
5. Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current progress payment and unconditional release forms for past progress payments. This also includes copies of certified payroll from contractor and subcontractors for the current payment period.

1.7 FINAL PAYMENT

- A. As soon as practicable after all required Work is completed in accordance with Contract Documents, including punch list, testing, record documents and Contractor maintenance after Final Acceptance, City will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including, without limitation, retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.
- B. Prior progress payments and change orders shall be subject to audit and correction in the final payment. City's determination of amount due as final payment shall be final and conclusive evidence of amount of Work performed by Contractor under Contract Documents and shall be full measure of compensation to be received by Contractor.
- C. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to final payment, Document 00 52 17 (Agreement and Release of Any and All Claims).

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

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SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 GENERAL

- A. Only Contractor or City may initiate changes in scope of Work or deviation from Contract Documents.
1. Contractor may initiate changes by submitting a Request for Information (RFI), Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions.
 - a. RFIs shall be submitted to seek clarification of or request changes in the Contract Documents.
 - b. Notices of Concealed or Unknown Conditions shall be submitted in accordance with Document 00 72 00 (General Conditions).
 - c. Notices of Hazardous Waste Conditions shall be submitted in accordance with Document 00 72 00 (General Conditions).
 2. City may initiate changes by issuing a Supplemental Instruction, which may revise, add to or subtract from the Work.
 3. City may initiate changes in the Work or Contract Time by issuing a Request for Quotation (RFQ) to Contractor. Such RFQ will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Time from Contractor.
 4. City may also, by Construction Change Directive (CCD), order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A CCD shall be used in the absence of total agreement on the terms of a Change Order and may, upon notice, consist of a Change Order executed by City only.

1.2 PROCEDURES

- A. Cost Quotation and Procedures: Whenever Contractor is required in this Section to prepare a cost quotation, and whenever Contractor is entitled to submit a cost quotation and elects to do so, Contractor shall prepare and submit to City for consideration a cost quotation using the form attached to this Section. All cost quotations must contain a complete breakdown of actual, current costs of credits, deducts, and extras; and itemizing materials, labor, taxes, overhead and profit. All Subcontractor Work shall be so indicated. Individual entries on the Cost Quotation Form shall be determined as provided in this Section. After receipt of a cost quotation with a detailed breakdown, City will act promptly thereon.

1. If City accepts a Cost Quotation, City will prepare Change Order for City and Contractor signatures.
 2. If the Cost Quotation is not acceptable to City because it does not agree with cost and/or time included in the Cost Quotation, City will submit in a response what it believes to be a reasonable cost and/or adjustment, if any. Except as otherwise provided in this Section, Contractor shall have 7 Days in which to respond to City with a revised Cost Quotation.
 3. When necessity to proceed with a change does not allow the City sufficient time to conduct a proper check of a Cost Quotation (or revised Cost Quotation), City may order Contractor to proceed on basis to be determined at earliest practical date. In this event, value of change, with corresponding equitable adjustment to Contract, shall not be more than increase or less than decrease proposed.
- B. Request for Information (RFI): Whenever Contractor requires information regarding the Project or Contract Documents, or receives RFI from a Subcontractor, Contractor may prepare and deliver an RFI to City. Contractor shall use RFI format provided by City. Contractor must submit time critical RFIs at least 30 Days before scheduled start date of the affected Work activity. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. Contractor's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute Contractor's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.
1. City will respond within 7 Days from receipt of RFI with a written response to Contractor. Contractor shall distribute response to all appropriate Subcontractors.
 2. If Contractor is satisfied with the response and does not request a change in Contract Sum or Contract Time, then the response shall be executed without a change.
 3. If Contractor believes the response is incomplete, Contractor shall issue another RFI (with the same RFI number with the letter "A" indicating if it is a follow-up RFI) to City clarifying original RFI. Additionally, City may return RFI requesting additional information should original RFI be inadequate in describing condition.
 4. If Contractor believes that the response results in change in Contract Sum or Contract Time, Contractor shall notify City in writing within 7 Days after receiving the response. If City disagrees with Contractor, then Contractor may give notice of intent to submit a Claim as described in Article 12 of Document 00 72 00 (General Conditions), and submit its Claim within 30 Days. If City agrees with Contractor, then Contractor must submit a Cost Quotation within 7 Days of receiving the response to the RFI. Contractor's failure to deliver either the foregoing notice and

Claim or Cost Quotation by the respective deadlines stated in the foregoing sentences shall result in waiver of the right to file a Cost Quotation or Claim.

- C. Supplemental Instruction: City may issue Supplemental Instruction to Contractor.
1. If Contractor is satisfied with Supplemental Instruction and does not request a change in Contract Sum or Contract Time, then Supplemental Instruction shall be executed without a Change Order.
 2. If Contractor believes that Supplemental Instruction results in a change in Contract Sum or Contract Time, then Contractor must submit a Cost Quotation to City within 21 Days of receiving the Supplemental Instruction.
- D. City requested RFQ: Contractor shall furnish a Cost Quotation within 5 Business Days of City's RFQ. Upon approval of RFQ, City will issue a Change Order directing Contractor to proceed with extra Work. If the parties do not agree on the price for an RFQ, City may either issue a CCD or decide the issue per Article 12 of Document 00 72 00 (General Conditions). Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.
- E. Construction Change Directives: If at any time City believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, City may issue a CCD with its recommended cost and/or time adjustment. Upon receipt of CCD, Contractor shall promptly proceed with the change of Work involved and concurrently respond to City's CCD within 10 Days.
1. Contractor's response must be any one of following:
 - a. Return CCD signed, thereby accepting City's response, time, and cost.
 - b. Submit a (revised if applicable) Cost Quotation with supporting documentation (if applicable, reference original Cost Quotation number followed by letter A, B, etc. for each revision), if City so requests.
 - c. Give notice of intent to submit a Claim as described in Article 12 of Document 00 72 00 (General Conditions), and submit its Claim within 30 Days.
 2. If the CCD provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
 - a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
 - b. Unit prices stated in the Contract Documents or subsequently agreed upon.
 - d. Cost to be determined in a manner agreed.
 3. CCD signed by Contractor indicates the agreement of Contractor therewith, including adjustment in Contract Sum and Contract Time or

the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

4. If Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by City on the basis of reasonable expenditures and savings of those performing the Work attributable to the change including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. If the parties still do not agree on the price for a CCD, Contractor may file a Claim per Article 12 of Document 00 72 00 (General Conditions). Contractor shall keep and present, in such form as City may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided in this Section.
 5. Pending final determination of cost to City, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by Contractor to City for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by City. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.
- F. Differing Site Conditions: Contractor shall submit Notices of Differing Site Conditions to resolve problems regarding differing underground Site conditions encountered in the execution of the Work pursuant to Paragraph 13.4 of Document 00 72 00 (General Conditions), which shall govern. If City determines that a change in Contract Sum or Contract Time is justified, City will issue RFQ or CCD.
- G. Hazardous Waste Conditions: Contractor shall submit Notices of Hazardous Waste Conditions to resolve problems regarding hazardous materials encountered in the execution of the Work pursuant to Paragraph 13.5 of Document 00 72 00 (General Conditions), which shall govern. If City determines that a change in Contract Sum or Contract Time is justified, City will issue RFQ or CCD.

1.3 COST DETERMINATION

- A. Total cost of extra Work or of Work omitted shall be the sum of labor costs, material costs, equipment rental costs, and specialist costs as defined herein plus overhead and profit as allowed herein. This limit applies in all cases of claims for extra Work, whether calculating cost quotation, change orders or CCDs, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Contractor may recover no other costs arising out of or connected with the performance of extra Work, of any nature. No special, incidental or consequential damages may be claimed or recovered against City, its

representatives or agents, whether arising from breach of Contract, negligence, or strict liability, unless specifically authorized in the Contract Documents.

B. Overhead and Profit: (Overhead shall be as defined in this Section)

1. Overhead and profit on labor for extra Work shall be 15 percent.
2. Overhead and profit on materials for extra Work shall be 15 percent.
3. Overhead and profit on equipment rental for extra Work shall be 10 percent.
4. When extra Work is performed by a first tier Subcontractor, Contractor shall receive a 5 percent markup on Subcontractors' total costs of extra Work. First tier Subcontractor's markup on its Work shall not exceed 15 percent.
5. When extra Work is performed by a lower tier Subcontractor, Contractor shall receive a total of 5 percent markup on the lower tier Subcontractors' total costs of extra Work. Contractor and first tier Subcontractors and lower tier Subcontractors shall divide the 10 percent markup as mutually agreed.
6. Notwithstanding the foregoing, in no case shall the total markup on any extra Work exceed 20 percent of the direct cost, notwithstanding the actual number of Contract tiers.
7. On quotations covering both increases and decreases in Contract Sum, overhead, profit, and commission shall be allowed on the net increase only as determined in this Section. When the net difference is a deletion, no percentage for overhead profit and commission shall be allowed, but rather a deduction shall apply.
8. The markup shall include profit, small tools, cleanup, engineering, supervision, warranties, cost of preparing the cost quotation, jobsite overhead, and home office overhead. No markup will be allowed on taxes, insurance, and bonds.

C. Taxes:

1. All State sales tax, use tax, and San Mateo County and applicable City sales taxes shall be included.
2. Federal and Excise tax shall not be included.

D. Owner-Operated Equipment: When owner-operated equipment is used to perform extra Work, Contractor will be paid for operator as follows:

1. Payment for equipment will be made in accordance with this Section.
2. Payment for cost of labor will be made at no more than rates of such labor established by collective bargaining agreements for type of worker and

location of Work, whether or not owner-operator is actually covered by such an agreement.

- E. Accord and Satisfaction: Every Change Order and accepted CCD shall constitute a full accord and satisfaction, and release, of all Contractor (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay, and any other type of claim. Contractor may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CCD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CCD, and must also submit a Claim for the reserved disputed items pursuant to Article 12 of Document 00 72 00 (General Conditions) no later than 30 Days of Contractor's first written notice of its intent to reserve rights.

1.4 COST BREAKDOWN

- A. Labor: Contractor will be paid cost of labor for workers (including forepersons when authorized by City) used in actual and direct performance of extra Work. Labor rate, whether employer is Contractor, Subcontractor or other forces, will be sum of following:
1. Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
 2. Labor Surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined in Paragraph 1.4A.1 of this Section, such as taxes and insurance. Labor surcharge shall be and shall not exceed that set forth in California Department of Transportation official labor surcharges schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein.
- B. Material: Only materials furnished by Contractor and necessarily used in performance of extra Work will be paid for. Cost of such materials will be cost, including sales tax, to purchaser (Contractor, Subcontractor or other forces) from supplier thereof, except as the following are applicable:
1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to City notwithstanding fact that such discount may not have been taken.
 2. For materials salvaged upon completion of extra Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
 3. If cost of a material is, in opinion of City, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is

available in quantities concerned delivered to Site, less any discounts as provided in this Section.

- C. Equipment Rental: For Contractor- or Subcontractor-owned equipment, payment will be made at rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. If there is no applicable rate for an item of equipment, then payment shall be made for Contractor- or Subcontractor-owned equipment at rental rate listed in the most recent edition of the Association of Equipment Distributors (AED) book. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by City. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of \$100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.
1. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by City. The following shall be used in computing rental time of equipment:
 - a. When hourly rates are listed, less than 30 minutes of operation shall be considered to be ½ hour of operation.
 - b. When daily rates are listed, less than four hours of operation shall be considered to be ½ Day of operation.
 2. For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
 - a. City will pay for costs of loading and unloading equipment.
 - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
 - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.
 - e. City will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.
 3. Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which City directs Contractor to discontinue use of equipment,

whichever first occurs. Excluding Saturdays, Sundays, and City's legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.

- C. Work Performed by Special Forces or Other Special Services: When City and Contractor, by agreement, determine that special service or item of extra Work cannot be performed by forces of Contractor or those of any Subcontractors, service or extra Work item may be performed by specialist. Invoices for service or item of extra Work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of special service industry to provide complete itemization. In those instances wherein Contractor is required to perform extra Work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra Work performed in such facility may, by agreement, be accepted as a specialist billing. City must be notified in advance of all off-Site Work. In lieu of overhead and profit provided in Paragraph 1.3B of this Section, 15 percent will be added to specialist invoice price, after deduction of any cash or trade discount offered or available, whether or not such discount may have been taken.

1.5 FORCE-ACCOUNT WORK

- A. If it is impracticable because of nature of Work, or for any other reason, to fix an increase or decrease in price definitely in advance, the Contractor may be directed to proceed at a not-to-exceed (NTE) maximum price which shall not under any circumstances be exceeded. Subject to such limitation, such extra Work shall be paid for at actual necessary cost for Force-Account Work or at the negotiated cost, as determined by City. The cost for Force-Account Work shall be determined pursuant to this Section.
- B. Force-Account Work shall be used when it is not possible or practical to price out the changed Work prior to the start of that Work. In these cases, Force-Account Work will be utilized during the pricing and negotiation phase of the change. Once negotiations have been concluded and a bilateral agreement has been reached, the tracking of the Work under Force-Account is no longer necessary. Force-Account Work shall also be used when negotiations between City and Contractor have broken apart and a bilateral agreement on the value of the changed Work cannot be reached. City may approve other uses of Force-Account Work.
- D. Whenever any Force-Account Work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to City each Business Day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account Work on preceding Day, by using the

Cost Quotation form attached hereto. No claim for compensation for Force-Account Work will be allowed unless report shall have been made.

- E. Whenever Force-Account Work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to City when 75 percent of the NTE amount has been expended.
- F. Force-Account Work shall be paid as extra Work under this Section. Methods of determining payment for Work and materials provided in this Paragraph 1.5 shall not apply to performance of Work or furnishings of material that, in judgment of City, may properly be classified under items for which prices are otherwise established in Contract Documents.

1.6 CITY-FURNISHED MATERIALS

- A. City reserves right to furnish materials as it deems advisable, and Contractor shall have no claims for costs and overhead and profit on such materials.

1.7 OVERHEAD DEFINED

- A. The following constitutes charges that are deemed included in overhead for all Contract Modifications, including Force-Account Work or CCD Work, whether incurred by Contractor, Subcontractors, or suppliers, and Contractor shall not invoice or receive payment for these costs separately:
 - 1. Drawings: field drawings, Shop Drawings, etc., including submissions of drawings
 - 2. Routine field inspection of Work proposed
 - 3. General Superintendence
 - 4. General administration and preparation of cost quotations, schedule analysis, Change Orders, and other supporting documentation as necessary
 - 5. Computer services
 - 6. Reproduction services
 - 7. Salaries of project engineer, superintendent, timekeeper, storekeeper, and secretaries
 - 8. Janitorial services
 - 9. Temporary on-Site facilities:
 - a. Offices
 - b. Telephones
 - c. Plumbing
 - d. Electrical: Power, lighting
 - f. Platforms
 - g. Fencing, etc.
 - h. Water
 - 10. Home Office Overhead
 - 11. Insurance and Bond premiums
 - 12. Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents
 - 13. Surveying

- 14. Estimating
- 15. Protection of Work
- 16. Handling and disposal fees
- 17. Final cleanup
- 18. Other incidental Work

1.8 RECORDS AND CERTIFICATION

- A. Force-Account (cost reimbursement) charges shall be recorded daily and summarized in Cost Quotation form attached hereto. Contractor or authorized representative shall complete and sign form each Day. Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; a list by size, type, and identification number of equipment and hours operated; and an indication of all Work performed by specialists.
- B. No payment for Force-Account Work shall be made until Contractor submits original invoices substantiating materials and specialists charges.
- C. City shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for Modification of Contract, including Force-Account Work and CCD Work.
- D. Further, City will have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, bidding records, in possession of Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, the Contract. If Contractor is a joint venture, right of City shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member. This right shall be specifically enforceable, and any failure of Contractor to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to the Article 12 of Document 00 72 00 (General Conditions).

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

COST QUOTATION FORM FOLLOWS ON NEXT PAGE

-END OF SECTION-

COST QUOTATION (CQ)

City of San Bruno

Project Title: _____

Contract Number _____

CQ Number: _____

Date: _____

In Response To _____

RFQ #, etc.

To: City of San Bruno

Attention: Project Engineer Name

567 El Camino Real

San Bruno, CA 94066

Phone: (650) 616-7065

Subject Ref. No: _____

(for Project Manager use only)

Fax: (650) 794-1443

From: _____

This Cost Quotation is in response to the above-referenced _____ **[insert RFQ, etc. as applicable]**.

Brief description of change(s):

ITEM DESCRIPTION	PRIME CONTRACTOR	SUB 1	SUB 2	SUB 3	SUB 4	TOTAL
MATERIAL						
Direct Labor Cost						
EQUIPMENT						
Other (Specify) Extended Overhead						
TOTAL COST						
Subcontractor's Overhead & Profit 15 percent						
Contractor's Overhead & Profit 15 percent						
Overhead & Profit to Contractor for Subcontractor's Work 5 percent						
(Percent of Total Cost above not including any Overhead & Profit)						
GRAND TOTAL						
REQUESTED CHANGE IN CONTRACT TIME (DAYS)						
By Contractor:		Signature:			Date:	

SECTION 01 31 14

COORDINATION, PUBLIC NOTIFICATION, AND PROJECT REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT COORDINATION

- A. Coordinate scheduling, submittals and work of various Sections of the Specifications and subcontractors to assure efficient and orderly sequence of interdependent construction.

1.2 CUTTING, FITTING, AND PATCHING

- A. Provide cutting, fitting, or patching required to complete the Work and to make all of its parts fit together properly. Include cutting, fitting, and patching required to:
 - 1. Fit the several parts together and to integrate with other work.
 - 2. Uncover work to install or correct ill-timed work.
 - 3. Remove and replace defective and non-conforming work.
- B. Request guidance from the Engineer prior to beginning cutting or altering construction, which affects:
 - 1. Structural integrity of any element.
 - 2. Functional performance of any element.
 - 3. Integrity of weather-exposed or moisture-resistant elements.
 - 4. Efficiency, maintenance, or safety of elements.
- C. Execute cutting and patching using workers that specialize in and are skilled in installing the type of work being cut or patched.
- D. Perform work in accordance with the Contract Documents or in the absence of specific requirements comply with best trade practice for the work involved.
 - 1. Execute work by methods that will avoid damage to other work.
 - 2. Provide proper support and substrates to receive patching and finishing materials.
 - 3. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection.
 - 4. Report any hazardous or unsatisfactory conditions to the Engineer.

1.3 ALTERATION PROJECT PROCEDURES

- A. Plan, schedule and perform alteration work as required to minimize impacting the Owner's continued operations.
- B. The existing sewer lines must remain in operation during construction.
- C. Perform cutting, fitting and patching in accordance with provisions in other paragraphs of this Section. Where new work abuts or aligns with existing work

perform a smooth even transition. When a smooth unnoticeable transition is not feasible cut existing surfaces along a straight line at a natural dividing point and provide a groove or cover plate as recommended by the Engineer.

- D. Provide new construction in accordance with the technical specifications or if not specified provide new construction matching adjacent or similar existing work in material and finish.

1.4 CONNECTIONS TO UNDERGROUND UTILITIES, CONDUITS, OR PROCESS PIPING

- A. Obtain best available current information on location, identification and marking of existing utilities, piping and conduits and other underground facilities before beginning any excavation. In areas where utilities that participate in Underground Service Alert may occur, call 800-642-2444 in Northern California for information at least 48 hours in advance of beginning work. Give Engineer 24 hours notice before beginning work.
- B. The location of existing utilities and underground facilities known to the Design Engineer are shown in their approximate location based on information available at the time of preparing the Drawings. Individual house services for gas and sewer are not shown. The actual location, size, type and number of utilities and underground facilities may differ from that shown and utilities or underground facilities may be present that are not shown.
- C. Use extreme care when excavating or working in areas that may contain existing utilities, process piping, conduits or other underground facilities. Use careful potholing, hand digging and probing to determine the exact location of underground installation. Some locations contain multiple pipes or conduits. Prior to performing any subsurface work, investigate, determine and prepare a plan to turn off or disconnect each utility believed to be within 100 feet of the subsurface work in the event of an accidental breach of a utility conduit.
- D. Where connections to existing utilities or other underground facilities is required or where new piping or conduits may cross or interfere with existing utilities or underground facilities carefully excavate and uncover existing installations to a point 1 foot below the pipe or conduit to determine the actual elevation and alignment. Call the Engineer's attention to differing existing conditions that may require clarification or change.
- E. The Contractor shall notify all owners of utilities when its work is in progress and shall make arrangements as are necessary to make any emergency repairs. Should any damage to a utility occur during the progress of the work, the Contractor shall notify the owner of the utility at once and render every assistance possible to repair the damage and restore service. No extra compensation will be made for the repair of any services or utility damaged by the Contractor nor for any damage incurred through neglect or failure to provide adequate protection to existing utilities. This provision exists even in the event that a utility or service is damaged after backfilling or is not discovered until after completion of the backfilling.

- F. All utilities encountered during the Work shall remain in continual service under the Contract, unless otherwise noted on the drawings, or unless the Engineer and owner of the said utility are in agreement to shutdown the said utility.

1.5 FIELD ENGINEERING AND LAYOUT

- A. The Owner will establish reference benchmarks. The Contractor shall develop and make additional surveys as needed for construction, such as control lines, stakes for pipe locations and other working points, lines, and elevations. Survey work shall be performed under the supervision of a licensed land surveyor or registered civil engineer. The Contractor shall protect reference points provided by the Owner and shall reset any that are damaged or destroyed by his operation at no cost to the Owner.
- B. The Contractor shall lay out the Work from the reference points provided and shall be responsible for accurate location, alignment, elevation and level of the completed Work.

1.6 PRECONSTRUCTION MEETINGS

- A. Prior to beginning the Work, the Contractor and its key personnel and Subcontractors including the Contractor's Superintendent, Project Manager, and Field Engineer shall attend a meeting with the Owner and the Engineer to discuss the following:
 - 1. Name, Authority, and Responsibilities of Parties Involved
 - 2. Project Procedures:
 - a. Progress meetings
 - b. Correspondence
 - c. Notification
 - d. Submittal of Product Data, Shop Drawing Samples, and Proposed Equivalents
 - e. Requests for Information
 - f. Response to Requests for Information
 - g. Requests for Quotation
 - h. Work Directive Change
 - i. Change Orders
 - j. Engineer's "Items of Concern List"
 - 3. Temporary Schedule and Contractor's Construction Schedule
 - 4. Testing During Construction
 - 5. Contractors Coordination
 - 6. Facilities and Temporary Controls
 - 7. Maintenance of Record Drawings
 - 8. Final Review of Work
 - 9. Punch Lists and Project Closeout Procedures
 - 10. Final Deliverables including Record Drawings and Special Guarantees.

1.7 PROGRESS MEETINGS

A. Agenda:

1. Review critical items/action list.
2. Review work progress. Compare actual and projected progress with Contractor's Construction Schedule. Propose methods to correct deficiencies.
3. Review status of Submittals; review delivery dates and date of need for critical items.
4. Review coordination problems.
5. Schedule needed testing and critical inspections.
6. Review critical requirements for each trade or major piece of equipment prior to beginning work or installation.
7. Discuss Contractor Quality Control.
8. Discuss open items on Engineers "Items of Concern List."
9. Discuss impact of proposed changes on progress Schedule.
10. Other business.

1.8 MATERIAL AND EQUIPMENT

A. General:

1. Verify that products delivered meet requirements of Contract Documents and the requirements for Favorably Reviewed submittals.

B. Compatibility of Equipment and Material:

1. Similar items, equipment, devices or products furnished under a single specification section shall all be made by the same maker and have interchangeable parts.
2. In addition, but only if so stated in each affected Specification Section, similar items furnished under two or more Specification Sections shall be made by the same maker and have interchangeable parts.
3. All similar materials or products that are interrelated or used together in an assembly shall be compatible with each other.

C. Transportation and Handling:

1. Transport and handle products in accordance with manufacturer's instructions.
2. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
3. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

D. Storage and Protection:

1. Store and protect products in accordance with manufacturer's instructions. Seals and labels shall be intact and legible.
2. For exterior storage of fabricated products, place items on sloped supports, aboveground.
3. Cover products subject to deterioration from moisture, dust, or sunlight with opaque watertight but breathable sheet covering. Provide ventilation to avoid condensation.
4. Provide offsite storage and protection including insurance coverage when site does not permit onsite storage or protection.

5. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
 6. Provide facilities, equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
 7. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
- E. Installation Standards and Manufacturers' Recommendations:
1. Install all products and materials in strict compliance with the most restrictive of the following:
 - a. The manufacturer's or provider's written instructions or recommendations. Follow step-by-step installation procedures.
 - b. Recommendations of referenced trade associations or standards.
 - c. These specifications and drawings.
 2. Where conflicts exist present alternatives with advantages and disadvantages to Engineer for decision.
- F. If reference standards or manufacturer's instructions contain provisions that would alter or are at variance with relationships between the parties to the Contract set forth in the Contract Documents, the provisions in the Contract Documents shall take precedence.

1.9 SEISMIC REQUIREMENTS

- A. The Contractor is responsible for producing designs that resist the total seismic forces in accordance with the design criteria.
- B. For items listed below, the Contractor is responsible for submitting signed and sealed structural calculations and detailed drawings from a Specialty Structural or Civil Engineer licensed in the State where the project is being built for the attachments for permanent equipment supported by the structure demonstrating that the design is capable of resisting the total seismic forces in accordance with the seismic design criteria.
1. The Contractor is responsible for coordinating between the Engineer of Record and the Specialty Engineer.
 2. The Specialty Engineer shall be responsible for the following:
 - a. Equipment anchorage including pumps and electrical panels.
 - b. Pipe and conduit supports not detailed on the drawings.
- C. Total seismic forces shall be determined in accordance with the seismic design requirements for non-structural components and equipment included in the California adopted and amended versions of IBC (Chapter 16) and the coefficients and factors for determining the total design seismic forces as follows:
1. Occupancy Category = III
 2. Seismic Design Category = D
 3. Site Class = D
 4. Spectral Response Acceleration at Short Period, $S_{DS} = 1.434$
 5. Component Importance Factor, $I_P = 1.0$

6. Components Coefficient, a_p , in accordance with ASCE 7-16, Table 13.6-1
 7. Components Coefficient, R_p , in accordance with ASCE 7-16, Table 13.6-1
- D. Non-structural components and equipment shall include the following items:
1. Mechanical, electrical, and plumbing equipment and appurtenances.
 2. Conduit, piping, cable trays, raceways, ducts and similar systems.
- E. Quality Assurance Submittals:
1. Where required in the equipment specifications in Divisions 2 through 17, submit certification that the equipment itself is designed to resist all internal seismic forces based on the seismic design criteria for the project.
 2. Where required in Paragraph B. above and in the equipment specifications in Divisions 2 through 17, submit signed and sealed structural calculations and detailed drawings from a specialty Structural or Civil Engineer, licensed in the state where the project is being built for the attachments and anchorage to the structure.
 3. Where required in the equipment specifications in Divisions 2 through 17, submit certification that the attachments and anchorage are designed to resist all seismic forces based on the design criteria for this project.

1.10 SAFETY

- A. In accordance with generally accepted construction practice and applicable law the Contractor shall be solely and exclusively responsible for:
1. Construction means and methods.
 2. Safety of employees engaged in the work while on and off the site.
 3. Safety of the Owner, the Engineer, the Design Engineer, and others who may visit or be affected by the work.
 4. Safety of the work itself including material and equipment to be incorporated therein.
 5. Safety of other property at the site or adjacent thereto.
 6. Safety programs, equipment and protective devices required to assure the safety of persons and property for whom/which the Contractor is responsible.
- B. The duties of the Engineer in conducting review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's work methods, equipment, bracing, scaffolding or safety measures in, on, or near the construction site.
- C. The Contractor is hereby informed that work on this project could be hazardous. The Contractor shall carefully instruct all personnel working in potentially hazardous work areas as to potential dangers and shall provide such necessary safety equipment and instructions as required to prevent injury to personnel and damage to property, and to comply with all applicable laws and regulations including State OSHA, Federal OSHA, and other regulations referenced in these Contract Documents.
- D. The Contractor shall, at all times, maintain the job in a condition that is safe for the Owner, the Engineer and their Consultants to make site visits and to

conduct construction reviews. If the Owner or the Engineer cannot allow personnel to visit the job because it is not safe, the Contractor is not providing required safe access to the Work.

- E. The Contractor shall prepare a Safety Plan meeting the requirements of applicable regulations. As a minimum, the Contractor's Safety Plan shall set forth definite procedures for informing workers about safety, for instructing workers in safe practices, for assuring that workers are using appropriate safety equipment and safe work practices and for reporting accidents.

1.11 EXCAVATION AND TRENCHING; WORK WITHIN CONFINED SPACES

- A. Submit specific plans to the Owner showing details of provisions for worker protection from caving ground in accordance with Section 6705 of the California State Labor Code. The detailed plans shall show the design of shoring, bracing, sloping banks or other provisions and shall be prepared, signed and stamped by a Civil or Structural Engineer licensed in the State in which the Work is performed and retained by the Contractor. The Owner's acceptance of the detailed plans submitted is only an acknowledgment of the submission and does not constitute review or approval of the designs, design assumptions, criteria, completeness, applicability to areas of intended use, or implementation of the plans, which are solely the responsibility of the Contractor and its Registered Engineer.
- B. Work Within Confined Spaces: Work within confined spaces is subject to applicable laws, regulations and safety orders including applicable regulations.
- C. The foregoing provisions do NOT reduce the requirement for the Contractor to maintain safety in ALL operations performed by the Contractor or its Subcontractors.

1.12 CONTRACTOR'S QUALITY CONTROL

- A. The Contractor shall be fully responsible for inspecting the work of its suppliers and Subcontractors to assure that the work when completed will comply with the standards for materials and workmanship required by the Contract Documents.
- B. Inspections, periodic observations and testing performed by the Owner or the Engineer are for the Owner's benefit and information only and shall not be construed as partial or incremental acceptance of the work and shall not be deemed to establish any duty on the part of the Owner or the Engineer to the Contractor, its subcontractors or suppliers.
- C. The Contractor shall:
 - 1. Monitor quality control over suppliers, manufacturer, products, services, site conditions, and workmanship, to produce work of specified quality.
 - 2. Comply fully with manufacturer's installation instructions, including performing each step in sequence as recommended by the manufacturer.
 - 3. Submit a Request for Information to Engineer before proceeding with work

when manufacturers' instructions or reference standards conflict with Contract Documents.

4. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
5. Perform work by persons specializing in the specific trade and class of work required and qualified to produce workmanship of specified quality.
6. Secure products in place with positive anchorage devices designed and sized to withstand seismic, static and dynamic loading, vibration, and physical distortion or disfigurement.

- D. If reference standards or manufacturers' instructions contain provisions that would alter or are at variance with relationships between the parties to the Contract set forth in the Contract Documents, the provisions in the Contract Documents shall take precedence.
- E. The Contractor shall provide assistance required by the Engineer to adequately inspect the Work including ladders, scaffolding, lighting, ventilation and other aids to facilitate access and provide a safe working environment.

1.13 TESTING LABORATORY SERVICES AND CERTIFIED LABORATORY REPORTS

- A. Provide testing service in accordance with specific requirements contained in each technical specification section. Submit Certified Laboratory Reports required by technical specification sections.

1.14 PERMITS

- A. The Contractor shall abide by conditions of all permits and shall obtain proof of satisfaction of conditions from issuers of permits, prior to acceptance of the Work by the City.
- B. The Contractor shall obtain the following permits:
 1. Permits for legal disposal of demolition debris and excess materials.
 2. California/OSHA Permit for excavations deeper than five (5) feet.
 3. RWQCB Permit for discharging water from dewatering operations.
 4. City of San Bruno Business License and Encroachment Permit.

1.15 CONVENIENCE AND ACCESS

- A. Contractor shall conduct his Work so as to minimize inconvenience to local traffic, residences, etc. The Contractor shall regard the rights of the public by not undertaking more work than he can properly conduct and complete by the end of the day.
- B. The Contractor shall provide access to all fire hydrants at all times.
- C. Unless the Contractor makes other arrangements with property owners, it shall provide and maintain safe and adequate vehicular access to driveways for

residences at all times except when necessary trench excavations preclude such access for reasonable periods of time. The excavated trench shall be backfilled or plated as soon as possible to provide access.

- D. The Contractor shall cooperate with the various forces involved in the collection and removal of trash and garbage from residences adjacent to the work, to the extent that the existing schedule for these services can be maintained.

1.16 PRE-CONSTRUCTION/POST-CONSTRUCTION PHOTOGRAPHS

- A. The Contractor shall provide pre-construction photographs prior to commencement of work on the site.
- B. The photographs shall be digital, color, and shall indicate the date, description of subject, and the location where the photograph was taken.
- C. Before construction may begin, the Contractor shall provide all pre-construction photos saved in hardware or cloud-based storage.
- D. Pre-construction photographs shall be taken at locations selected by the Contractor, and also as directed by the Engineer. At a minimum photographs will be taken at 50-foot intervals with one photo taken up line and the other photo taken down line.
- E. The Contractor shall document post-construction conditions by re-photographing the same subjects, from the same locations, as taken for the pre-construction photographs. Contractor shall provide all post-construction photos saved in hardware or cloud-based storage.

1.17 PUBLIC NOTIFICATION

Public notification shall consist of providing project information signs and establishing and implementing a procedure to provide at least two separate written construction notices (handouts and/or mailings) to affected properties, and door-to-door notification as described below. A written Public Notification Plan shall be provided to the Engineer for review prior to implementation and shall include documentation that required noticing has been accomplished.

- A. Written Notifications: A copy of all written notices shall be provided to the Engineer for review at least one week prior to handout and/or mailing
 - 1. Notifications shall include the type(s) of work, the period the work will last, parking and any ingress/egress impacts, construction times and dates. Notifications shall also include 24-hour contact information for the Contractor and a contact if residents or businesses have question regarding work or if they have special needs that need to be accommodated.
 - 2. Written notifications shall consist of, at a minimum, a general notice describing the overall project including an outline of the proposed work tasks

and a second task-specific notice of the construction that will impact individual residents within the construction area. Should additional tasks impact a property, the Contractor shall provide additional task-specific notice(s) as necessary.

3. The Contractor shall provide the general written notice to all businesses and residents residing on the project streets and all emergency, garbage/recycle collection and transit services at least four (4) working days, but not more than seven (7) working days prior to start of construction on each project street. Work shall be scheduled to avoid interruption of garbage/recycling collection services.
 4. The task-specific notices shall be provided to affected residents a minimum of 48 hours prior to the start of the construction task. On the day before work is to begin, the Contractor shall securely attach a door hanger reminding affected residents of the type of work (ie digouts, overlay, slurry seal, etc.), period the specific construction will last, construction time and date of construction, information regarding access to their property and information regarding street closures, parking and/or detours. Any notices remaining on doors the evening of construction completion shall be picked up and disposed of by the Contractor.
 5. Failure to comply with the notification requirement will result in a stop work order. The Contractor shall maintain an updated and chronological record at the job site of all written notifications along with a list of recipients. Such records shall be made available upon request by the Engineer.
 6. No work shall take place prior to the required notification, re-notification, or coordination work with affected facilities.
- B. Project Information Sign: Contractor shall place a 4'x 4' min. sign facing traffic on each project roadway at the beginning and end of the project area at least seven (7) days prior to the start of construction. The signs shall be in accordance with City Standard Detail **M-01 "Project Sign Template"**, and shall include the project name, start date, and Contractor Contact Phone Number. Project title shall be 4" min. height and be legible by motorists. All excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes. Construction area signs shall be used at cross streets as needed to notify the public of the construction activities before entering the construction zone. Locations of all signs shall be approved by the Engineer prior to their placement. All signs shall be placed within City's right-of-way. No signs shall be placed in Caltrans right-of-way or private properties.

**PART 2 – PRODUCTS
NOT USED**

**PART 3 – EXECUTION
NOT USED**

-END OF SECTION-

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SECTION 01 31 19

PROJECT MEETINGS

PART 1 - GENERAL

1.1 PRECONSTRUCTION CONFERENCE

- A. City will call for and administer Preconstruction Conference at time and place to be announced (usually the week prior to start of Work at the Site).
- B. Contractor, all major Subcontractors, and major suppliers shall attend Preconstruction Conference.
- C. Agenda will include, but not be limited to, the following items.
 - 1. Schedules
 - 2. Personnel and vehicle permit procedures
 - 3. Use of premises
 - 4. Location of any Contractor on-Site facilities
 - 5. Security
 - 6. Housekeeping
 - 7. Submittal and RFI procedures
 - 8. Inspection and testing procedures, on-Site and off-Site
 - 9. Control and reference point survey procedures
 - 10. Injury and Illness Prevention Program
 - 11. Contractor's Initial Schedule
 - 12. Contractor's Schedule of Values
 - 13. Contractor's Schedule of Submittals
- D. City will distribute copies of minutes to attendees. Attendees shall have seven (7) Days to submit comments or additions to minutes. Minutes will constitute final documentation of results of Preconstruction Conference.

1.2 WEEKLY PROGRESS MEETINGS

- A. City will schedule and administer weekly progress meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by City.
 - 1. Meetings shall be held at _____ (on site / virtual) _____.
 - 2. A City Representative will prepare agenda and distribute it 4 Days in advance of meeting to Contractor.
 - 3. Participants with agenda items shall present them.
 - 4. The City Engineer's authorized representative shall preside at the meetings.
 - 5. The City shall record and distribute the meeting minutes. Minutes shall be distributed by the City to the Contractor within 3 business days after the meeting. Contractor shall distribute the minutes to those affected by decisions made at meeting. Attendees shall have five business days to submit comments or additions to the minutes. Minutes shall constitute final documentation of results of meeting.

- B. Progress meetings shall be attended by Contractor's job superintendent, major Subcontractors and suppliers, City, and others as appropriate to agenda topics for each meeting.
- C. Agenda will contain the following items, as appropriate:
 - 1. Review, revise as necessary, and approve previous meeting minutes
 - 2. Review of Work progress since last meeting
 - 3. Status of Construction Work Schedule, delivery schedules, adjustments
 - 4. Submittal, RFI, and Change Order status
 - 5. Review of the Contractor's safety program activities and results, including report on all serious injury and/or damage accidents
 - 6. Other items affecting progress of Work

1.3 PROGRESS SCHEDULE AND BILLING MEETINGS

- A. A meeting will be held on approximately the 20th of each month to review the schedule update submittal and progress payment application.
 - 1. At this meeting, at a minimum, the following items will be reviewed:
 - a. Percent complete of each activity;
 - b. Time impact evaluations for Change Orders and Time Extension Request;
 - c. Actual and anticipated activity sequence changes;
 - d. Actual and anticipated duration changes; and
 - e. Actual and anticipated Contractor delays.
 - 2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, Contractor's General Superintendent and Scheduler shall attend these meetings.
 - 3. Contractor shall plan on the meeting taking no less than one hour.

1.4 SAFETY MEETINGS

- A. Conduct monthly Contractor Safety Committee meetings.
- B. Conduct weekly toolbox safety talks.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

-END OF SECTION-

SECTION 01 32 16

PROGRESS SCHEDULES AND REPORTS

PART 1 - GENERAL

1.1 GENERAL

- A. Progress Schedule shall be based on and incorporate Milestone and completion dates specified in Contract Documents.
- B. Overall time of completion and time of completion for each Milestone shown on Progress Schedule shall adhere to times in Document 00 52 00 (Contract Agreement), unless an earlier (advanced) time of completion is requested by Contractor and agreed to by City. A Change Order shall formalize any such agreement.
 - 1. City is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion date(s) for the Contract Time.
 - 2. Contractor is not entitled to extra compensation in the event agreement is reached on an earlier (advanced) schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in earlier (advanced) schedule but within the Contract Time.
- C. Failure of Progress Schedule to include any element of the Work or any inaccuracy in Progress Schedule will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. City's acceptance of Schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon City, or act to relieve Contractor of its responsibility for means and methods of construction.

1.2 PROGRESS SCHEDULE

- A. Contractor shall provide City with a Preliminary Schedule at the Preconstruction Conference which include the Contractor's schedule for up to thirty (30) Days after the Notice to Proceed.
- B. The Preliminary Schedule shall indicate detailed plan for the Work to be completed in first thirty (30) Days of the Contract; details of planned mobilization; sequence of early operations; and procurement of materials and equipment. The Preliminary Schedule shall show Work beyond thirty (30) Days in summary form.
- C. Contractor shall submit an updated Initial Schedule for City review and approval no later than ten (10) Days after the Notice to Proceed effective date. The Initial Schedule and all subsequent updates shall comply with all standards herein.

1.3 SCHEDULE FORMAT AND LEVEL OF DETAIL

- A. Each Schedule (Preliminary, Initial, and Updates) shall indicate all separate fabrication, procurement and field construction activities required for completion of the Work, including but not limited to the following:
 - 1. All Contractor, Subcontractor, and assigned Contractor Work shall be shown in a logical Work sequence that demonstrates a coordinated plan of Work for all contractors. The intent is to provide a common basis of acceptance, understanding, and communication, as well as interface with other contractors.
 - 2. Activities related to the delivery of Contractor-furnished and City-furnished equipment to be Contractor-installed per Contract shall be shown.
 - 3. All activities shall be identified through codes or other identification to indicate the building (i.e. buildings, Site Work) and Contractor/Subcontractor responsibility to which they pertain.
 - 4. Each Schedule shall break up the work schedule into activities of durations of approximately fourteen (14) Days or less each, except for non-field construction activities or as otherwise deemed acceptable by City.
 - 5. Each Schedule shall show the critical path in red. For each activity, the Schedule shall show early start, late start, early finish, late finish, durations measured in Days, Project Float, resources, predecessor and successor activities, planned workday/week for the activity, manpower loading, and scheduled/actual progress payments.
- B. Seasonal weather conditions (which do not constitute a delay as defined herein) shall be considered in the planning and scheduling of all potential Work influenced by high or low ambient temperatures or presence of high moisture for the completion of the Work within the allotted Contract Time.
- C. Failure by Contractor to include any element of Work required for performance of the Work on the detailed construction schedule shall not excuse Contractor from completing all Work required within the Contract Time.
- D. A two-week "look ahead," detailed daily bar chart schedule shall be updated weekly and provided to the City.
- E. Utilize computer-scheduling software, such as "Microsoft Project" or approved equivalent, for all scheduling including schedule updates.

1.4 MONTHLY SCHEDULE UPDATE SUBMITTALS

- A. Following acceptance of Contractor's Initial Schedule, Contractor shall monitor progress of Work and adjust its Schedule each month to reflect actual progress in blue and any anticipated changes to planned activities.

1. Each Schedule update submitted shall be complete, including all information requested for the Preliminary Schedule and Initial Schedule submittal.
 2. Each update shall continue to show all Work activities including those already completed.
 3. Completed activities (shown in blue) shall accurately reflect “as built” information by indicating when activities were actually started and completed, and Contractor warrants the accuracy of as-built information as shown.
- B. Updating, changing or revising of any report, curve, schedule or narrative submitted to City by Contractor under this Contract, nor City’s review or acceptance of any such report, curve, schedule or narrative shall not have the effect of amending or modifying, in any way, the Contract Substantial Completion date or Milestone dates or of modifying or limiting, in any way, Contractor’s obligations under this Contract.

1.5 RECOVERY SCHEDULE

- A. If a Schedule update shows a Substantial Completion Date five (5) Days beyond any Contract Substantial Completion date, or individual Milestone completion dates, Contractor shall submit to City within seven (7) Days the proposed revisions to recover the lost time. As part of this submittal, Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of Work. If City reasonably requests, Contractor shall show the intended critical path; secure appropriate Subcontractor and supplier consent to the recovery Schedule, and submit a narrative explaining trade flow and construction flow changes, duration changes, added/deleted activities, critical path changes and identify all near critical paths and man-hour loading assumptions for major Subcontractors.

1.6 TIME IMPACT EVALUATION (“TIE”) FOR CHANGE ORDERS, TIME EXTENSIONS AND DELAYS

- A. When Contractor requests a time extension for any reason, Contractor shall submit a TIE that includes both a written narrative and a schedule diagram depicting how the changed Work or other impact affects other schedule activities. The schedule diagram shall show how Contractor proposes to incorporate the changed Work or other impact in the schedule, and how it impacts the current Schedule update critical path or otherwise. Contractor is also responsible for requesting time extensions based on the TIE’s impact on the critical path. The diagram shall be tied to the main sequence of scheduled activities to enable City to evaluate the impact of changed Work to the scheduled critical path.
- B. Contractor shall comply with the requirements of paragraph 1.6A of this Section for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.

- C. Contractor is responsible for all costs associated with the preparation of TIEs, and the process of incorporating TIEs into the current schedule update. Contractor shall provide City with four copies of each TIE.

1.7 DAILY REPORTS

- A. Contractor shall provide daily construction reports the following morning showing personnel, trades, equipment and supervision on site; weather; work started, completed and any impediments, problems or delays, for the work day.

1.8 COST DATA

- A. Contractor shall provide City with copies for each Day Contractor works on the Project, to be delivered to City either the same Day or the following morning before starting Work at the Site. Contractor shall take monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

-END OF SECTION-

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SUBMITTAL PROCEDURES

- A. Accompany each submittal with a Submittal form, which contains the following information:
 - 1. Contractor's name and the name of Subcontractor or supplier who prepared the submittal.
 - 2. The project name and identifying number.
 - 3. Description of the submittal and reference to the Contract requirement or technical specification section and paragraph number being addressed.
- B. Submit electronic copies for each submittal and follow the procedures described below or in other paragraphs in this Section.
 - 1. Designation of Superintendent: Include name, address, home telephone number and a brief resume.
 - 2. List of Subcontractors and Major Suppliers: Include address, telephone number and name of responsible party.
 - 3. Subcontractors'/Suppliers'/Manufacturers' Affidavits. Submit electronic copies for items specified in the Technical Specifications.
 - 4. Environmental Protection Plan. Submit electronic copies for information.

1.02 SCHEDULE OF SUBMITTALS

- A. Submit electronic copies for information.
- B. At the pre-construction meeting, submit a Schedule of Submittals showing the date by which each submittal required for Product Review or Product Information will be made. Identify the items that will be included in each submittal (see paragraph 1.05 of this Section) by listing the item or group of items and the Specification Section and paragraph number under which they are specified. Indicate whether the submittal is required for Product Review of Proposed Equivalents, Shop Drawings, Product Data or Samples or required for Product Information only.

1.03 PLAN OF OPERATIONS

- A. Submit electronic copies.
- B. Before beginning on site work, submit a plan showing Contractor's intended use of the Work site, including on site storage of materials, on site handling of materials, and field offices.

1.04 CONSTRUCTION SCHEDULE

- A. Submit electronic copies for information.
- B. The form of Construction Schedule may be selected by the Contractor, but shall require the following:
 - 1. Beginning and ending date for each major construction task.
 - 2. Sequential order of tasks.
 - 3. Input from the Contractor's subcontractors and suppliers.
 - 4. An allowance for normal unfavorable weather.
 - 5. Enough time to accomplish all clarifications or changes such that it shall not exceed time limits specified in the Contract Documents.
 - 6. 5 working days for review and response of submittal while not impacting Contractor's schedule.
 - 7. Tabulation and analysis of the work schedule shall be performed by computer.
- C. If the Construction Schedule does not reflect the format requirements, the specified work, or the Contract Time, it will be returned to the Contractor for modification.
- D. Revise the Construction Schedule and resubmit within two (2) days following any monthly meeting to review Contractor's Application for Payment when Contractor's work is five (5) days or more behind schedule.
- E. Accelerated Work if Required to Meet Schedule: Give Engineer three (3) days prior notice of construction that will take place outside of normal work hours or work days. Compensate Owner for extra inspection cost caused by Accelerated Work required to meet Schedule.
- F. Give Engineer three (3) days prior notice of normal work days on which construction will not take place or of scheduled construction that will not take place. Compensate Owner for extra inspection cost resulting from failure to give notice.

1.05 SHOP DRAWING, PRODUCT DATA AND SAMPLES SUBMITTED FOR PRODUCT REVIEW

- A. This paragraph covers submittal of Shop Drawings, Product Data and Samples required for the Engineer's review referred to as Product Review submittals for the Technical Specifications of the contract documents. Submittals required for information only are referred to as Product Information submittals in the Technical Specifications and are covered in paragraph 1.07 of this Section.
- B. Number and type of submittals:
 - 1. Shop Drawings: Submit clear, sharp high contrast electronic copies, which will be marked, stamped and returned to the Contractor.
The Contractor shall distribute the stamped copies to its superintendent, subcontractors and suppliers.
 - 2. Product Data: Submit clear electronic copies. Electronic copies will be marked, stamped and returned. The Contractor distribute the stamped copies to its superintendent, subcontractors and suppliers.

- C. The Contractor shall make all Product Review submittals early enough to allow adequate time for the Engineer's review, for manufacture and for delivery at the construction site without causing delay to the Work. Submittals shall be made early enough to allow for unforeseen delays such as:
1. Failure to obtain Favorable Review because of inadequate or incomplete submittal or because the item submitted does not meet the requirements of the Contract Documents.
 2. Delays in manufacture.
 3. Delays in delivery.
- D. Content of Submittals:
1. Each submittal shall include all of the items and material required for a complete assembly, system or Specification Section.
 2. Submittals shall contain all of the physical, technical and performance data required by the specifications or necessary to demonstrate conclusively that the items comply with the requirements of the Contract Documents.
 4. Provide verification that the physical characteristics of items submitted, including size, configuration, clearances, mounting points, utility connection points and service access points, are suitable for the space provided and are compatible with other interrelated items that are existing or have or will be submitted.
 5. Label each Product Data Submittal, Shop Drawing and Sample with the information required in paragraph 1.01A of this Section. Highlight or mark every page of every copy of all Product Data submittals to show the specific items being submitted and all options included or choices offered.
 6. Additional requirements for Product Review submittals are contained in the Technical Specification sections.
 7. Designation of work as "by others," shown on Shop Drawings, shall mean that the work will be the responsibility of the Contractor rather than the subcontractor or supplier who has prepared the Shop Drawings.
- F. Requirements for Contractor Designed Items:
Verify that products delivered meet requirements of Contract Documents.
- G. Compatibility of Equipment and Material:
1. Similar items, equipment, devices or products furnished under a single specification section shall all be made by the same maker and have interchangeable parts.
 2. In addition, but only if so stated in each affected Specification Section, similar items furnished under two or more Specification Sections shall be made by the same maker and have interchangeable parts.
 3. All similar materials or products that are interrelated or used together in an assembly shall be compatible with each other.
- H. Requirements for the Contractor's review and stamping of submittals prepared by the Contractor or by Subcontractors or suppliers prior to submitting them to the Engineer. The Contractor warrants:

1. Work or items submitted are complete, accurate and meet the requirements of the Contract Documents, or else any deviations are identified and described in a separate letter accompanying the submittal form.
 2. Work or items submitted have been coordinated with and meet the requirements of other submittals, field conditions and the Work as a whole and quantities and dimensions are correct.
 3. Proposed Equivalent items are at least equal in quality, utility and appearance to the first specified item, or else any deviations are identified in a separate letter accompanying the submittal form.
 4. Adjustments to other work required to accommodate Proposed Equivalent items including second named items have been delineated on the submittal and will be made at the Contractor's expense.
 5. This submittal includes all items needed for a particular specification section or assembly for which submittals are required.
- I. Submittals that contain deviations from the requirements of the Contract Documents shall be accompanied by a separate letter explaining the deviations. The Contractor's letter shall:
1. Cite the specific Contract requirement including the Specification Section and paragraph number for which approval of a deviation is sought.
 2. Describe the proposed alternate material, item or construction and explain its advantages and/or disadvantages to the Owner.
 3. State the reduction in Contract Price if any that is offered to the Owner.
- J. Engineer's Review Procedure and Meaning:
1. The Engineer will stamp and mark each Product Review submittal prior to returning it to the Contractor. The stamp will indicate whether or not the review was favorable and what action is required of the Contractor. Review categories "No Exceptions Taken" and "Make Corrections Noted" both indicate Favorable Review.
 2. The Engineer's Favorable Review is contingent on the Contractor's warranties. Favorable Review is also contingent on:
 - a. The compatibility of items included in a submittal with other related or interdependent items included in previous or future submittals.
 - b. Future submittal of items related to or required to be part of this submittal that were not included with this submittal.
 3. Favorable Review of a submittal does not constitute approval or deletion of items required as part of the submittal but not included with the submittal. Favorable Review of items included in the submittal does not constitute deletion of specified features, options or accessories that were not included in the submittal.
 4. The action required by the Contractor for each category of review is as follows:
 - a. **NO EXCEPTIONS TAKEN.** NO RESUBMITTAL REQUIRED.
 - b. **MAKE CORRECTIONS NOTED:**
 - (1) **NO RESUBMITTAL REQUIRED.** The Contractor shall make corrections noted prior to manufacture.
 - (2) **PARTIAL RESUBMITTALS REQUIRED.** The Contractor shall submit related accessory or optional items as noted which are required but were not included with the submittal and/or shall

resubmit unsatisfactory portions or attributes of items as noted.

The Contractor may proceed to manufacture those portions of the submittal that will be unaffected by required resubmittals.

- c. **AMEND AND RESUBMIT**. The Contractor shall amend and resubmit the submittal as noted or required to comply with the Contract Documents.
 - d. **REJECTED - RESUBMIT**. The item submitted does not comply with the Contract Documents in a major way. Resubmit items that comply with the requirements of the Contract Documents.
5. The letter of transmittal accompanying the returned Product Review submittal may contain numbered notes. Marking a corresponding number on a Shop Drawing or Product Data submittal shall have the same affect as applying the entire note to the submittal.
- K. Re-submittals that contain changes that were not requested by the Engineer on the previous submittal shall be accompanied by a letter explaining the change.
- L. Favorable Review Required Prior to Proceeding.
1. Do not proceed with manufacture, fabrication, delivery or installation of items prior to obtaining the Engineers Favorable Review of Product Review submittals.
- M. Intent and Limitation on Engineer's Review
1. The Contractor has primary responsibility for submitting and providing work that complies with the requirements of the Contract Documents. That responsibility cannot be delegated in whole or in part to subcontractors or suppliers. Neither the Engineer's Favorable Review nor the Engineer's failure to notice or comment on deficiencies in the Contractor's submittals shall relieve the Contractor from the duty to provide work, which complies with the requirements of the Contract Documents.

1.06 PROPOSED EQUIVALENTS

- A. Submittal for Proposed Equivalent products or materials shall comply with the submittal requirements for Shop Drawings, Product Data, and Samples submitted for Product Review in this Section. Bidders wanting to use "or approved equal items" may submit Document 00 43 25 (Substitution Request Form) no later than seven (7) days after the issuance of the Notice of Award.
- B. Time of Submittal:
1. Submittal of Proposed Equivalents shall be received within five (5) days of the Notice to Proceed. The Engineer may agree to a later submittal date if requested in writing within five (5) days of the Notice to Proceed. The request shall identify the item, providing the Specification reference, and proposed manufacturer and model number of the item that will be submitted and the proposed submittal date.
 2. The Engineer's agreement to a later submittal date shall be in writing and shall not be construed as Favorable Review or acceptance of the manufacturer or item proposed.

- C. Content of submittals shall be the same as that required for Product Data, Shop Drawings and Samples submitted for Product Review in another paragraph of this Section. In addition, the Contractor shall provide information on several recent similar installations of the item to verify its suitability. The information shall include the project name and location, the Owner's name, address, telephone number and name of a knowledgeable person to contact for information on performance of the product.
- D. When the Contractor has listed specific maker's products submitted with its Bid no changes will be permitted without submittal of acceptable evidence justifying the change and the Engineer's written approval.
- E. If a non-equivalent substitute is submitted for review, it shall be accompanied by a proposed reduction in Contract Price which shall include the increased cost of Engineering service required to evaluate the proposed substitute (which shall be paid to the Owner whether or not the substitute is accepted) plus the greater of 1) the difference in price between the first specified item and the item submitted and 2) the difference in value to the Owner between the two items.

1.07 PRODUCT INFORMATION SUBMITTALS

- A. Submit electronic copies.
- B. Product Information submittals are required for the Owner's permanent records and will be used for future maintenance, repair, modification or replacement work. Product Information submittals will be examined only to verify that the required submittals have been made; they will NOT be reviewed for compliance with the Contract Documents.
- C. Make Product Information submittals prior to delivering material, products or items for which Product Information submittals are required.
- D. The Contractor has the sole and exclusive responsibility for furnishing products and work that meets the requirements of the Contract Documents.
- E. The Engineer reserves the right to comment on any submittal and to reject any product or work delivered, installed or otherwise at any time that the Engineer become aware that it is defective or does not meet the requirements of the Contract Document.

1.08 MANUFACTURER'S CERTIFICATES

- A. Submit electronic copies.

- B. When specified in Technical Specification section, submit manufacturers' certificate to Engineer for review. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate. Certificates may be recent or previous test results on material or Product, but must be acceptable to the Engineer.

**PART 2 – PRODUCTS
NOT USED**

**PART 3 – EXECUTION
NOT USED**

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SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: regulatory requirements applicable to Contract Documents.
- B. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
- C. Should any conditions develop not covered by the Contract Documents wherein the finished Work will not comply with current codes, a Change Order detailing and specifying the required Work shall be submitted to and approved by City before proceeding with the Work.

1.2 REFERENCES TO REGULATORY REQUIREMENTS

- A. Contractor shall comply with all codes, laws, ordinances, rules and regulations applicable to the Work, which shall have full force and effect as though printed in full in these Specifications. Code, laws, ordinances, rules and regulations are not furnished to Contractor, because Contractor is assumed to be familiar with these requirements.
 - 1. Work shall be accomplished in conformance with all applicable laws, ordinances, rules and regulations of federal, state, and local governmental agencies and jurisdictions having authority over the Project.
 - 2. Work shall be accomplished in conformance with all rules and regulations of public utilities and utility districts.
 - 3. Where such laws, ordinances rules, and regulations require more care or greater time to accomplish Work, or require better quality, higher standards or greater size of products, Work shall be accomplished in conformance to such requirements with no change to the Contract Time and Contract Sum, except where changes in laws, ordinances, rules, and regulations occur subsequent to the time of opening of the Bids.
- B. Change Orders and Claims. The California Public Contract Code (including but not limited to Section 7105 (d)(2)) and the California Government Code (Section 930.2 et. seq.) apply to all contract procedures for changes, time extensions, change orders (time and money), and claims. Any change, alteration, Modifications, waiver, or omission to implement these procedures, shall have

no legal effect unless approved in advance in a fully executed Change Order approved in writing by City's legal counsel.

1.3 PRECEDENCE

- A. Where Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by applicable codes, ordinances and standards, Drawings and Specifications shall take precedence so long as such increase is legal.
- B. Where no requirements are identified on Drawings or in Specifications, comply with all requirements of applicable codes, ordinances and standards of governing authorities having jurisdiction.
- C. Conflicts between referenced regulatory requirements: Comply with the one establishing the more stringent requirement.
- D. Conflicts between referenced regulatory requirements and Contract Documents: Comply with the one establishing the more stringent requirement.

1.4 REQUIRED PROVISIONS ON CONTRACT CLAIM RESOLUTION

- A. The California Public Contract Code specifies required provisions on resolving contract claims less than \$375,000, which are set forth below, and constitute a part of this Contract.
 - 1. For the purposes of this Section, "Claim" means a separate demand by Contractor of \$375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by City. In order to qualify as a Claim, the written demand must state that it is a Claim submitted under paragraph 12 of Document 00 72 00 (General Conditions) and be submitted in compliance with all requirements of Document 00 72 00, paragraph 12.
 - 2. A voucher, invoice, payment application, or other routine or authorized form of request for payment is not a Claim for purposes of this Section. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a Claim under this Section by submitting a separate claim in compliance with Contract Documents claim submission requirements.
 - 3. Caution: This Section does not apply to tort claims and nothing in this Section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the California Government Code, Sections 900, et seq.

B. Procedure:

1. The Claim must be in writing, submitted in compliance with all requirements of Document 00 72 00, paragraph 12, including, but not limited to, the time prescribed by and including the documents necessary to substantiate the Claim, pursuant to Document 00 72 00. Claims must be filed on or before the day of final payment. Nothing in this Section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in Document 00 72 00, paragraph 12 or elsewhere in the Contract Documents.
2. For Claims of fifty thousand dollars (\$50,000) or less
 - a. City shall respond in writing within forty-five (45) days of receipt of the Claim, or
 - b. City may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims City may have against Claimant.
 - 1) If additional information is thereafter required, it shall be requested and provided in accordance with this Section, upon mutual agreement of City and Claimant.
 - 2) City's written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
3. For Claims over Fifty Thousand Dollars (\$50,000) and less than or equal to \$375,000:
 - a. City shall respond in writing within 60 days of receipt of the Claim, or
 - b. City may request in writing within 30 days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims City may have against Claimant.
 - 1) If additional information is thereafter required, it shall be requested and provided in accordance with this Section, upon mutual agreement of City and Claimant;
 - 2) City's written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
4. Meet and Confer:
 - a. If Claimant disputes City's written response, or City fails to respond within the time prescribed above, Claimant shall notify City, in writing, either within fifteen (15) days of receipt of City's response or within fifteen (15) days of City's failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand City will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

- b. Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written claim under Paragraph 1.4.B hereunder, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

1.5 COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT

- A. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services, and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state, and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits, or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents, or assigns shall constitute a material breach of the Contract Documents.

1.6 SUBSTITUTION OF SECURITIES IN LIEU OF RETENTION

- A. In accordance with the provisions of California Public Contract Code Section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted under following conditions:
 1. At request and expense of Contractor, securities listed in Section 16430 of the California Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and City which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such moneys to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.
 2. Alternatively, Contractor may request and City shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. At the expense of Contractor, Contractor may direct the investment of the payments into securities and receive the interest earned on the investments upon the same terms provided for in Document 00 61 16 (Escrow Agreement for Security Deposit in lieu of Retention) for securities deposited by Contractor. Upon satisfactory completion of the Work as specified in the Contract Documents, Contractor shall receive from escrow agent all

securities, interest, and payments received by the escrow agent from City, pursuant to the terms of this Section. Pay to each Subcontractor, not later than twenty (20) Days after receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention withheld to insure the performance of Contractor.

3. Contractor shall be beneficial owner of securities substituted for moneys withheld and shall receive any interest thereon.
4. Enter into escrow agreement with Controller according to Document 00 61 16 (Escrow Agreement for Security Deposits in Lieu of Retention), as authorized under California Public Contract Code Section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract Documents.
5. California Public Contract Code Section 22300 is hereby incorporated in full by this reference.

**PART 2 – PRODUCTS
NOT USED**

**PART 3 - EXECUTION
NOT USED**

-END OF SECTION-

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SECTION 01 42 16

DEFINITIONS

PART 1 - GENERAL

1.1 DEFINITIONS

- A. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth. In the Contract Documents, the neuter gender includes the feminine and masculine, and the singular number includes the plural.
- B. While City has made an effort to identify all defined terms with initial caps, the following definitions shall apply regardless of case unless the context otherwise requires:
1. **Addenda:** Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-Bid Conference and/or Site Visit.
 2. **Contract Agreement (Document 00 52 00):** Agreement is the basic Contract Document that binds the parties to construction Work. Agreement defines relationships and obligations between City and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract Documents.
 3. **Alternate:** Work added to or deducted from the base Bid, if accepted by City.
 4. **Application for Payment:** Written application for monthly or periodic progress or final payment made by Contractor complying with the Contract Documents.
 5. **Approved Equal:** Approved in writing by City as being of equivalent quality, utility and appearance.
 6. **Architect/Engineer:** If used elsewhere in the Contract Documents, "Architect/Engineer" shall mean a person holding a valid California State Architect's or Engineer's license representing the City in the administration of the Contract Documents. Architect/Engineer may be an employee of or an independent consultant to City. When Architect/Engineer is referred to within the Contract Documents and no Architect/Engineer shall be construed to include employees of Architect/Engineer and/or employees that Architect/Engineer supervises. When the designated Architect/Engineer is an employee of City, his or her authorized representatives on the Project will be included under the term

Architect/Engineer. If Architect/Engineer is an employee of City, Architect/Engineer is the beneficiary of all Contractor obligations to City, including without limitation, all releases and indemnities.

7. **Asbestos:** Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by OSHA or Cal/OSHA.
8. **Bid:** The offer or proposal of the Bidder submitted on the prescribed form(s) setting forth the prices for the Work to be performed.
9. **Bidder:** One who submits a Bid.
10. **Bidding Documents:** All documents comprising the Project Manual (including all documents and specification sections listed in Document 00 01 10 (Table of Contents), including documents supplied for bidding purposes only, and Contract Documents.
11. **Board:** The City Council of the City.
12. **Change Order:** A written instrument prepared by City and signed by City and Contractor, stating their agreement upon all of the following:
 - a. A change in the Work;
 - b. The amount of the adjustment in the Contract Sum, if any; and
 - c. The amount of the adjustment in the Contract Time, if any.
13. **Code Inspector:** A local or state agency responsible for the enforcement of applicable codes and regulations.
14. **Construction Change Directive ("CCD"):** A written order prepared and signed by City, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both.
15. **Contract Conditions or Conditions of the Contract:** Document 00 72 00 (General Conditions) and any other Supplementary Conditions.
16. **Contract Documents and Contract:** Contract Documents and Contract shall consist of the documents identified as the Contract Documents in Document 00 52 00 (Contract Agreement), plus all changes, Addenda, and Modifications thereto.
17. **Contract Modification:** Either:
 - a. A written amendment to Contract signed by Contractor and City; or
 - b. A Change Order; or
 - c. A Construction Change Directive; or
 - d. A written directive for a minor change in the Work issued by City.

18. **Contract Sum:** The sum stated in the Agreement and, including authorized adjustments, the total amount payable by City to Contractor for performance of the Work and the Contract Documents. The Contract Sum is also sometimes referred to as the Contract Price or the Contract Amount.
19. **Contract Time:** The number or numbers of Days or the dates stated in the Agreement to achieve Substantial Completion of the Work or designated Milestones; and/or to complete the Work so that it is ready for final payment and is accepted.
20. **Contractor:** The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neutral in gender. The term "Contractor" means the Contractor or its authorized representative.
21. **Contractor's Employees:** Persons engaged in execution of Work under Contract as direct employees of Contractor, as Subcontractors, or as employees of Subcontractors.
22. **City:** The City of San Bruno.
23. **City-Furnished, Contractor-Installed:** Items furnished by City at its cost for installation by Contractor at its cost under Contract Documents.
24. **City's Representative(s):** See Document 00 52 00 (Contract Agreement).
25. **County:** The County of San Mateo, California.
26. **Day:** One calendar day of 24 hours measured from midnight to the next midnight, unless the word "day" is specifically modified to the contrary.
27. **Defective:** An adjective which, when modifying the word "Work," refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of Samples and "or approved equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by City). City is the sole judge of whether Work is Defective.
28. **Drawings:** The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.
29. **Equal:** Equal in opinion of City. Burden of proof of equality is responsibility of Contractor.

30. **Final Acceptance or Final Completion:** City's acceptance of the Work as satisfactorily completed in accordance with Contract Documents. Requirements for Final Acceptance/Final Completion include, but are not limited to:
 - a. All systems having been tested and accepted as having met requirements of Contract Documents.
 - b. All required instructions and training sessions having been given by Contractor.
 - c. All Project Record Documents having been submitted by Contractor, reviewed by City, and accepted by City.
 - d. All punch list Work, as directed by City, having been completed by Contractor.
 - e. Generally all Work, except Contractor maintenance after Final Acceptance/Final Completion, having been completed to satisfaction of City.
31. **Force Account:** Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.
32. **Home Office Overhead:** Home office overhead shall not be included as part of the cost of the Work, but shall be part of Contractor's profit and shall include, but is not limited to, the following:
 - a. Accounting functions of Contractor's main office.
 - b. General expenses of Contractor's main office.
 - c. Interest on capital.
 - d. Salaries of any home office estimators and administration.
33. **Milestone:** A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.
34. **Modification:** Same as Contract Modification.
35. **Not in Contract:** Work that is outside the scope of Work to be performed by Contractor under Contract Documents.
36. **Notice of Completion:** Shall have the meaning provided in California Civil Code §3093, and any successor statute.
37. **Off Site:** Outside geographical location of the Project.
38. **Overhead:** Shall include by not be limited to the following:

- a. All on-site payroll costs, and fringe benefits of same, for supervising, estimating, expediting, drafting and clerical services where directly affecting the cost of the Work.
 - b. Small tools less than Five Hundred Dollars (\$500.00) capital cost per item.
 - c. Equipment maintenance and repairs.
 - d. Temporary construction, utilities, and safety requirements, forming, and necessary scaffolding.
 - e. Transportation of materials other than direct identifiable cost of specific deliveries, or as included in the price of material.
 - f. Parking fees for workmen.
 - g. Permit fees.
 - h. Cost of reproduction
 - i. General Insurance and Bonds.
39. **Partial Utilization:** Use by City of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all of the Work.
40. **PCBs:** Polychlorinated biphenyls.
41. **Phase:** A specified portion of the Work (if any) specifically identified as a Phase in Document 00 52 00 (Contract Agreement).
42. **Product Data:** That information (brochures, catalog sheets, manufacturer's cut sheets, etc.) supplied by vendors having technical and commercial characteristics of the supplied equipment or materials and accompanying commercial terms such as warranties, instructions, and manuals.
43. **Progress Report:** A periodic report submitted by Contractor to City with progress payment invoices accompanying progress schedule. See Document 00 72 00 (General Conditions).
44. **Project:** Total construction of which Work performed under Contract Documents may be whole or part.
45. **Project Manager:** If used elsewhere in the Contract Documents, "Project Manager" shall mean a person representing the City in the administration of the Contract Documents. Project Manager may be an employee of or an independent consultant to City. When Project Manager is referred to within the Contract Documents and no Project Manager has been designated, the matter shall be referred to City. The term Project Manager shall be construed to include employees of Project Manager and/or employees that Project Manager supervises. When the designated Project Manager is an employee of City, his or her authorized representatives on the Project will be included under the term Project

Manager. If Project Manager is an employee of City, the Project Manager is the beneficiary of all Contractor obligations to City, including without limitation, all releases and indemnities.

46. **Project Manual:** Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, Drawings, and Specifications.
47. **Project Record Documents:** All Project deliverables required under Sections 01 78 39, including without limitation, As-built drawings; Installation, Operation, and Maintenance Manuals; and Machine Inventory Sheets.
48. **Reference Specifications (RS):** The current edition of the Standard Specifications for Public Works Construction also known as the "Greenbook".
49. **Request for Information ("RFI"):** A document prepared by Contractor requesting information regarding the Project or Contract Documents. The RFI system is also a means for City to submit Contract Document clarifications or supplements to Contractor.
50. **Request for Proposals ("RFP"):** A document issued by City to Contractor whereby City may initiate changes in the Work or Contract Time as provided in Contract Documents.
51. **Request for Substitution ("RFS"):** A document prepared by Contractor requesting substitution of materials as permitted and to the extent permitted in Contract Documents.
52. **RFI-Reply:** A document consisting of supplementary details, instructions, or information issued by City that clarifies or supplements Contract Documents, and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Time except as otherwise agreed in writing by City. RFI-Replies will be issued through the RFI administrative system.
53. **Samples:** Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
54. **Shop Drawings:** All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
55. **Site:** The particular geographical location of Work performed pursuant to Contract Documents.

56. **Specifications:** The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards, and workmanship for the Work; performance of related services.
57. **Standard Specifications (SS):** The current edition of the Standard Specifications as issued by the State of California Department of Transportation (Caltrans).
58. **Subcontractor:** A person or entity that has a direct contract with Contractor to perform a portion of the Work at the Site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and neutral in gender and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.
59. **Substantial Completion:** The Work (or a specified part thereof) has progressed to the point where, in the opinion of City as evidenced by a Certificate of Substantial Completion, the Work is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work (or specified part) is complete and ready for final payment as evidenced by written recommendation of City for final payment. The terms "Substantially Complete" and "Substantially Completed" as applied to all or part of the Work refer to Substantial Completion thereof.
60. **Supplemental Instruction:** A written directive from City to Contractor ordering alterations or Modifications that do not result in change in Contract Sum or Contract Time, and do not substantially change Drawings or Specifications.
61. **Underground Facilities:** All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities that have been installed underground to furnish any of the following services or materials: Electricity, gases, chemicals, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, or water.
62. **Unit Price Work:** Shall be the portions of the Work for which a unit price is provided in Document 00 52 00 (Contract Agreement) or 01 11 00 (Summary of Work).
63. **Work:** The entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents within the Contract Time. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents including everything shown in the Drawings and set forth in the

Specifications. Wherever the word “work” is used, rather than the word “Work,” it shall be understood to have its ordinary and customary meaning.

64. **Working Day:** Any Day other than Saturday, Sunday, and the following days that have been designated as holidays by City. If a holiday falls on a Saturday, the preceding Friday will be the holiday. If a holiday falls on a Sunday, the following Monday will be the holiday.
- a. New Year’s Day, January 1;
 - b. Martin Luther King Jr.’s Birthday, third Monday in January;
 - c. Lincoln’s Birthday, February 12;
 - d. Presidents’ Day, third Monday in February;
 - e. Memorial Day, last Monday in May;
 - f. Independence Day, July 4;
 - g. Labor Day, first Monday in September;
 - h. Veterans’ Day, November 11;
 - i. Thanksgiving Day, as designated by the President;
 - j. The Day following Thanksgiving Day;
 - k. Christmas Eve, December 24;
 - l. Christmas Day, December 25; and
 - m. Each day appointed by the Governor of California and formally recognized by the Board as a day of mourning, thanksgiving, or special observance.
- C. The following terms are not necessarily identified with initial caps; however they shall have the meaning set forth below:
1. Wherever words “as directed,” “as required,” “as permitted,” or words of like effect are used, it shall be understood that direction, requirements, or permission of City is intended. Words “sufficient,” “necessary,” “proper,” and the like shall mean sufficient, necessary, or proper in judgment of City. Words “approved,” “acceptable,” “satisfactory,” “favorably reviewed,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by City.
 2. Wherever the word “may” or “ought” is used, the action to which it refers is discretionary. Wherever the word “shall” or “will” is used, the action to which it refers is mandatory.
 3. **By City:** Work that will be performed by City or its agents at the City’s expense.
 4. **By Others:** Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by City, other contractors, or other means.
 5. **Concealed:** Work not exposed to view in the finished Work, including within or behind various construction elements.

6. **Exposed:** Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.
7. **Furnish:** Supply only, do not install.
8. **Indicated:** Shown or noted on the Drawings.
9. **Install:** Install or apply only, do not furnish.
10. **Latent:** Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under Document 00 72 00 (General Conditions).
11. **Law:** Unless otherwise limited, all applicable laws including without limitation all federal, state, and local laws, statutes, standards, rules, regulations, ordinances, and judicial and administrative decisions.
12. **Material:** This word shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.
13. **Provide:** Furnish and install.
14. **Shown:** As indicated on Drawings.
15. **Specified:** As written in Specifications.
16. **Testing and special inspection agency:** An independent entity engaged by City to inspect and/or test the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes.

**PART 2 – PRODUCTS
NOT USED**

**PART 3 – EXECUTION
NOT USED**

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SECTION 01 51 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary Electricity
2. Temporary Telephone
3. Temporary Water
4. Temporary Sanitary Facilities
5. Temporary Barriers and Enclosures
6. Tree and Plant Protection
7. Water Control
8. Noise Control
9. Traffic Control
10. Storm Water Pollution Prevention Plan
11. Removal of Temporary Facilities and Controls

1.2 DEFINITIONS

- A. Dripline: The area on the ground from the trunk of any tree to the point directly below the outermost tips of the foliage of that tree.
- B. Root Protection Zone (RPZ): The areas enclosed with tree protection fencing as indicated.
- C. Tree damage: Tree damage shall include, but not be limited to, the following: significant injury to the root system or other parts of a tree including burning, application of toxic substances, damaging through contact with equipment or machinery, changing the natural grade within the Dripline, compacting the soil within the Dripline, interfering with the normal water requirements of the tree, unauthorized trenching or excavating within the Dripline, or unauthorized removal of more than 1/3 of the live wood, foliage, or roots.

1.3 SUBMITTALS

- A. See also Section 01 33 00 (Submittal Procedures)
- B. Tree Protection Plan

1.4 TEMPORARY ELECTRICITY

- A. Provide, maintain, and pay for electrical power at the Site for construction purposes.

1.5 TEMPORARY TELEPHONE

- A. Provide, maintain, and pay for telephone service to field office at time of Project mobilization.

1.6 TEMPORARY WATER

- A. Provide, maintain, and pay for suitable quality water service required for construction operations.
- B. Contractor may use City-provided water from nearby fire hydrants for use on this Project. Contact City three Days prior to commencement of Work to coordinate using City's water. City will provide and install a backflow prevention device and water meter if City determines it to be necessary. This water will only be available from 8:00 a.m. to 5:00 p.m. Mondays through Fridays (excluding holidays). Should City determine, in its sole discretion, that Contractor's use of City's water is excessive, City may terminate water delivery.

1.7 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required temporary buildings with sanitary toilets for use of all workers.
- B. Comply with all minimum requirements of the Health Department or other public agency having jurisdiction; maintain in a sanitary condition at all times.

1.8 TEMPORARY BARRIERS AND ENCLOSURES

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for City's use of Site, and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades required by governing authorities for public access to existing buildings.
- C. Provide barricades as necessary to protect vehicular traffic, stored materials, Site, and structures from damage.

1.9 TREE AND PLANT PROTECTION

- A. Root protection: No storage of materials or equipment will be allowed within the Dripline. Whenever possible, excavation shall be on a radial line, diverging from the tree trunk.
- B. Exposure to harmful substances: No storage or dumping of any substances that may be harmful to trees shall occur at any location on the Site.
- C. Where construction is to be performed in the vicinity of trees and shrubbery, the Work shall be carried on in a manner that will cause minimum damage. City will designate any trees that are to be removed. Under no circumstances are additional trees to be removed without written permission from City. Trees and shrubbery that are not to be removed shall be protected from injury or damage resulting from Contractor's operations.
- D. All damage shall be immediately reported to City, who will file a report so that penalties may be determined.
- E. Any tree that is removed without City's permission or is irreparably damaged, in the opinion of City, shall cost Contractor \$27.00 per square inch of cross section, measured at 4 ½ feet above ground, but not less than \$250.00, such cost to be deducted from monies due or to become due under the Contract. If tree protection is not performed or is not performed adequately, and City determines that a tree has been irreparably damaged, City will impose the same penalty as for unauthorized removal of a tree.

1.10 WATER CONTROL

- A. Grade Site to drain.
- B. Maintain excavations free of water.
- C. Protect Site from ponding or running water.
- D. Provide water barriers as required to protect Site from soil erosion.

1.11 NOISE CONTROL

- A. When required by OSHA Standards, construction workers shall be provided with ear protection to operate equipment.
- B. Work that produces noise levels above ambient will not be permitted prior to 8:00 a.m.

1.12 TRAFFIC CONTROL

- A. Notification:

1. One week prior to commencement of Work, notify residents along the Project roadway(s), in writing, that traffic flows may be subject to detours and/or delays, and that access to individual driveways may be disrupted during working hours. Provide City with a copy of the notice for review prior to distribution.
2. At least one (1) week prior to commencement of Work, post the Project area to inform drivers of impending construction Work and likely delays and detours. Provide City with a copy of the notice for review prior to distribution.
3. Notify the property occupants, in writing, at least three (3) Days in advance of the trenching across property occupants' driveways. Provide City with a copy of the notice for review prior to distribution.
4. The Contractor shall maintain private entrances and shall construct such detours as may be necessary to properly conduct the work and to provide ingress and egress to private property at all times.
5. The Contractor shall make all arrangements with property owners for the use of private land for detours and for any other purpose, and shall save the City free from any liability incurred through the use or nonuse of such private property.
6. Coordinate vehicular access with other agencies, police, fire, garbage, USPS, etc. at least three (3) Days prior to commencement of Work.
7. If any applicable permits require Contractor to notify residents or any organization of traffic detours or delays, provide City a copy of all such notices for review prior to distribution.
8. Coordinate parking, storage, staging, and Work areas with City. No-Parking signs shall be posted, at least 3 Days, prior to start of work.

B. Traffic Control Measures:

1. Traffic control and safety precautions shall conform with the current edition of Caltrans "Manual of Uniform Traffic Control Devices," all provisions of the City of San Bruno encroachment permit, and with these Specifications.
2. The Contractor shall submit a traffic control plan to the Engineer for approval prior to commencing the work. Unless otherwise approved by the Engineer, the traffic control plan shall be wet stamped by either a Registered Civil or Traffic Engineer.
3. Pay for all costs for traffic signage, including flagging.
4. Provide safe passage for vehicular and pedestrian traffic through the Work at all times.

5. Traffic on two-lane streets may be reduced to one lane provided that, with all restriction of traffic flow, flaggers, cones, signs, and barricades are furnished as required by City. Permit the traffic equal flow time in each direction.
6. Maintain access to public and private buildings, businesses and driveways. Provide approved metal "bridge" or temporary backfill for access when and where required within ½ hour after request by City except that emergency vehicles and personnel shall be provided immediate access at all times.
7. Restore access to all residences for all non-working hours, holidays, and weekends.

C. Maintain traffic control measures:

1. Maintain traffic control through the Site and provide local access as specified herein regardless of rain or other causes, either within or beyond the control of Contractor, that may force suspension or delay of the Work. At all times keep on the Site such materials, labor forces, and equipment as may be necessary to keep the streets and driveways within the Site open to traffic and in good repair. Expedite the passage of such traffic, using such labor forces and equipment as may be necessary.

1.13 STORM WATER POLLUTION PREVENTION PLAN

- A. Prior to commencement of Work at the Site, provide City a Storm Water Pollution Prevention Plan (SWPPP) prepared in accordance with NPDES General Permit No. CAS 000002 (Water Quality Order 99-08-DWQ) issued by the State Water Resources Control Board.
- B. Prepare the SWPPP in accordance with the requirements of Section A of the NPDES General Permit. Develop and implement a monitoring program in accordance with requirements set forth in Section B of the NPDES General Permit to verify compliance with the NPDES General Permit.
- C. Submit SWPPP to City for review in accordance with Section 01 33 00 (Submittal Procedures). The SWPPP shall be reviewed by City prior to commencement of Work at the Site.
- D. The SWPPP shall include a Site map. Geometric equations, notes, details, and all data not related to water pollution control work shall be removed to improve clarity. A copy of the Drawings shall be used as a base sheet with the pertinent stage of construction drawn in as an overlay to accurately reflect Site conditions at various phases of construction.
- E. Revise and update the SWPPP whenever there is a change in construction operations that may affect the Site drainage patterns or discharge of pollutants to surface waters, groundwaters, or a separate municipal storm sewer system.

- F. Failure to fully comply with the requirements of the NPDES General Permit shall subject Contractor to all fines, damages, and job delays incurred due to failure to implement the SWPPP.
- G. A copy of the approved SWPPP, together with updates and revisions, shall be kept at the Site. Contractor shall furnish copies of the SWPPP at the request of City.
- F. At City's option, failure by Contractor to fully comply with the approved SWPPP shall subject the Contractor to a stoppage of work or fines of \$250 per day until compliance as determined by the Engineer is achieved.

1.14 REMOVAL OF TEMPORARY FACILITIES AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, and materials prior to final inspection.
- B. Clean and repair damage caused by installation or use of temporary Work.
- C. Restore existing facilities used during construction to original condition.
Restore permanent facilities used during construction to specified condition.

PART 2 – PRODUCTS NOT APPLICABLE

PART 3 – EXECUTION NOT APPLICABLE

-END OF SECTION-

SECTION 01 56 36

TEMPORARY SITE SECURITY AND SAFETY

PART 1 - GENERAL

1.1 SUBMITTALS

- A. Health and Safety Plan

1.2 PROTECTION

- A. Contractor shall continuously maintain protection as necessary to protect the Work, as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.
- B. Contractor shall properly protect the Work:
 - 1. With lights, guard rails, temporary covers or barricades.
 - 2. Enclose excavations with proper barricades.
 - 3. Brace and secure all parts of the Work against storm and accident.
 - 4. Provide such additional forms of protection that may be necessary under existing circumstances.
- C. Contractor shall provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the Work and to exclude unauthorized persons from the Work. When regulated by Building Code, Cal OSHA, or other authority, such legal requirements for protection shall be considered as minimum requirements. Contractor shall be responsible for the protection in excess of such minimum requirements as required.

1.3 CONTROL OF SITE

- A. Contractor shall ensure that no alcohol, firearms, weapons, or controlled substance enters or is used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee found in violation of this provision.

1.4 SAFETY PROGRAM

- A. Prior to starting any Work at the Site, Contractor shall submit a Safety Program that has been reviewed and approved by an Industrial Hygienist certified by the American Board of Industrial Hygiene or a Certified Safety Professional. The Safety Program shall include the name, certification number, and certification seal of the Industrial Hygienist or Certified Safety Professional. Contractor shall comply with the Safety Program and all applicable federal, state, and local regulation codes, rules, law and ordinances.

- B. Receipt and/or review of the Safety Program by City, Project Manager or City's Representative shall not relieve Contractor of any responsibility for complying with all applicable safety regulations.
- C. It is essential that Contractor and each Subcontractor implement an effective and vigorous Safety Program to cover their respective portions of the Work. Subject to Contractor's overall responsibility for Project safety, it shall be understood that the full responsibility for providing a safe place to work with respect to their respective portions of the Work rests with each individual Contractor and Subcontractor.
- D. Safety Program components:
 - 1. Injury and Illness Prevention Program (IIPP): Conforming to the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 3203), and the California Labor Code (Section 6401.7).
 - 2. Site-Specific Safety and Health Plan (SSHP): Describing health and safety procedures that shall be implemented during the Work in order to ensure safety of the public and those performing the Work. Follow the guidelines for a SSHP listed in CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5192, Item (b)(4) f.
- E. The wearing of hard hats shall be mandatory at all times for personnel on Site. Contractor shall supply sufficient hard hats to equip properly all employees and visitors.
- F. Whenever an exposure exists, appropriate personal protective equipment (PPE) shall be used by all affected personnel. Contractor shall supply PPE to all personnel under Contractor's direction.

1.5 SAFETY REQUIREMENTS

- A. Standards: Contractor shall maintain the Project in accordance with state and local safety and insurance standards.
- B. Hazards Control:
 - 1. Contractor shall store volatile wastes in covered metal containers and remove from premises daily.
 - 2. Contractor shall prevent accumulation of wastes that create hazardous conditions.
 - 3. Contractor shall provide adequate ventilation during use of volatile or noxious substances.
- C. Contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish or waste material on the Site

2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains
 3. Do not dispose of wastes into streams or waterways
- D. Provide accident information on the forms provided by Contractor. This information shall be provided on the same Day as the occurrence of said incident.

1.6 SITE SAFETY OFFICER

- A. Designate one of Contractor's staff as "Site Safety Officer" whose duties shall include the responsibility for enforcing the environmental protection provisions of the Contract Documents including safety and health, the requirements of the Occupational Safety and Health Act, and other applicable federal, state and local standards. Submit for review by City Contractor's intended Traffic Control Plan(s), Safety Plan, Access Plan. After review by City, the implementation and enforcement of these plans shall become the responsibility of the Site Safety Officer. Any changes in the plans shall be requested by Contractor through the Site Safety Officer for written concurrence by City.
- B. City's risk management representative(s) shall be allowed access to accident/injury and illness reports, inspection reports, scheduling and construction meetings, and safety meetings.

PART 2 - PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

-END OF SECTION-

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SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Products
- B. Product Options and Substitutions
- C. Product Delivery Requirements
- D. Product Storage and Handling

1.2 PRODUCTS

- A. Products: New material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. For similar components, provide interchangeable components of the same manufacturer.

1.3 PRODUCT OPTIONS AND SUBSTITUTIONS

A. Summary:

- 1. This Paragraph 1.3 describes procedures for selecting products and requesting substitutions of unlisted materials in lieu of materials named in the Specifications or approved for use in Addenda that were not already the subject of a Document 00 43 25 (Substitution Request Form) submittal as provided in Document 00 21 00 (Instructions to Bidders).

B. Contractor's Options:

- 1. For products specified only by reference standard: Select any product meeting that standard.
- 2. For products specified by naming one or more products or manufacturers:
 - a. Select products of any named manufacturer meeting Specifications.
 - b. If product becomes unavailable due to no fault of Contractor, submit Request for Substitution (RFS), including all information contained in this Section and a fully executed Document 00 21 00, but using the term "Contractor" each place the term "Bidder" appears in that form.

C. Substitutions:

1. Except as provided in Document 00 21 00 (Instructions to Bidders) with respect to “or Approved Equal” items, City will consider Contractor’s substitution requests only when product becomes unavailable due to no fault of Contractor or if the product specified no longer complies with local regulations or laws. Requests for review of proposed substitute items will not be accepted from anyone other than Contractor. The RFS shall state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor’s achievement of Substantial Completion on time, and whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with City for work on the Project).
2. Submit separate RFS (and four copies) for each product and support each request with:
 - a. Product identification
 - b. Manufacturer’s literature
 - c. Samples, as applicable
 - d. Name and address of similar projects on which product has been used, and dates of installation
 - e. Name, address, and telephone number of manufacturer’s representative or sales engineer
 - f. For construction methods: Detailed description of proposed method; drawings illustrating methods
3. Where required, itemize a comparison of the proposed substitution with product specified and list significant variations including, but not limited to dimensions, weights, service requirements, and functional differences. If variation from product specified is not pointed out in submittal, variation will be rejected even though submittal was favorably reviewed. Identify all variations of the proposed substitute from that specified in the RFS and indicate available maintenance, repair, and replacement service.
4. State whether the substitute will require a change in any of the Contract Documents (or provisions of any other direct contract with City for work on the Project) to adapt the design of the proposed substitute, and whether or not incorporation or use of the substitute in connection with Work is subject to payment of any license fee or royalty. Submit data relating to changes in construction schedule.
5. Include accurate cost data comparing proposed substitution with product and amount of net change in Contract Sum including, but not limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by City in evaluating the proposed substitute. City may require Contractor to furnish additional data about the proposed substitute.
6. City will not consider substitutions for acceptance (or, in City’s sole discretion, City may make Contractor solely responsible for all resulting costs, expenses and other consequences) when a substitution:

- a. Results in delay meeting construction Milestones or completion dates.
 - b. Is indicated or implied on submittals without formal request from Contractor.
 - c. Is requested directly by Subcontractor or supplier.
 - d. Acceptance will require substantial revision of Contract Documents.
 - e. Disrupts Contractor's job rhythm or ability to perform efficiently.
7. Substitute products shall not be ordered without written acceptance of City.
 8. City will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.
 9. Accepted substitutions will be evidenced by a Change Order or a CCD. All Contract Document requirements apply to Work involving substitutions.

D. Contractor's Representation and Warranty:

1. Contractor's RFS constitutes a representation and warranty that Contractor:
 - a. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
 - b. Will provide the same warranty for substitution as for specified product.
 - c. Will coordinate installation and make other changes that may be required for Work to be complete in all respects.
 - d. Waives claims for additional costs which may subsequently become apparent.
 - e. Will compensate City for additional redesign costs associated with substitution.
 - f. Will be responsible for Construction Schedule slippage due to substitution.
 - g. Will be responsible for Construction Schedule delay due to late ordering of available specified products caused by requests for substitution that are subsequently rejected by City.
 - h. Will compensate City for all costs; including extra costs of performing Work under Contract Documents, extra cost to other contractors, and any claims brought against City, caused by late requests for substitutions or late ordering of products.
 - i.

E. City's Duties:

1. Review Contractor's RFS with reasonable promptness
2. Notify Contractor in writing of decision to accept or reject requested substitution

F. Administrative Requirements:

1. Specified products, materials, or systems for Project may include engineering or on-file standards required by the regulatory agency. Contractor's substitution of products, materials or systems may require additional engineering, testing, reviews, approvals, assurances, or other

information for compliance with regulatory agency requirements or both. Provide all agency approvals or other additional information required and pay additional costs for required City services made necessary by the substitution at no increase in Contract Sum or Contract Time, and as a part of substitution proposal.

1.4 PRODUCT DELIVERY REQUIREMENTS

- A. Deliver products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

1.5 PRODUCT STORAGE AND HANDLING

- A. Store products only in staging area per provisions of Section 01 11 00 (Summary of Work).
- B. Handle, store, and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate-controlled enclosures.
- C. For exterior storage of fabricated products, place on appropriate supports, above ground.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

PART 2 - PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

-END OF SECTION-

SECTION 01 71 13

MOBILIZATION, SITE MAINTENANCE, DEMOBILIZATION

PART 1 - GENERAL

1. GENERAL

Mobilization, site maintenance, and demobilization consists of moving in and establishing the work zones, establishing health and safety procedures, performing site maintenance and cleanup, and moving out of the work site.

2. PERMITS

Obtain all licenses and permits as required in Section 00 72 00 General Conditions, Subsection 13- Legal and Miscellaneous, and Section 01 33 00 Submittal Procedures of the City's Standard Specifications. Coordinate obtaining permits with City, as necessary.

3. TREE PROTECTION

Prior to commencement of any construction activity beneath or within 10' of the drip-line of a Street or Heritage tree, the Contractor shall present a Tree Protection Plan to the City for approval. The Tree Protection Plan shall be prepared by a certified arborist to assess impacts of the proposed construction to the tree(s), recommend mitigation to reduce impacts to the tree(s) to a less than significant level, and identify construction guidelines to be followed through all phases of the project, and may include care after construction.

4. FENCING

Install any temporary fencing on the locations as deemed necessary by the City or the Contractor for site security.

5. NOTIFICATION FOR PROPERTY OWNERS AND TENANTS

The Contractor shall furnish all affected property owners and/or residents and merchants written notification that describes the proposed work. The notices shall include relevant dates and describe anticipated impacts to property owners during the work, including, but not limited to, a description of landscaping and improvements that may be affected and/or removed and a statement that the owners/residents have a right to salvage all such existing landscaping, improvements and/or materials that the Contractor may remove to facilitate construction within the right-of-way. The content, format, and method of delivery of such notices shall be approved by the Engineer prior to distribution. The Contractor is advised that these notices shall not

be placed in mailboxes, as it is a violation of federal postal regulations. Affected property owners and residents or merchants shall be considered all those who:

- a. Front on or are contiguous to the Project limits.
- b. Have ingress/egress route only from within the Project limits.

The Contractor shall provide approved notification to all affected owners/residents a minimum of **ten (10) CALENDAR DAYS** prior to the commencement of any Project site work. Failure to distribute notices shall be sufficient cause for the Engineer to suspend the work until such notices are distributed.

6. WORK ZONES

Establish exclusion, decontamination, and clean zones at the Site, using temporary chain link fence, traffic barricades, caution tape, or other appropriate method.

7. RUBBISH AND TRASH

Collect rubbish and trash daily. Do not allow rubbish and trash to collect such that a safety or fire hazard exists or nuisance or bad appearance.

8. SITE MAINTENANCE

Promptly decontaminate and remove materials or equipments that have served their use on the Site. At the end of each day, perform the following:

- a. Secure the site;
- b. Store equipment and materials in locations approved by City;
- c. Disconnect water and power (except as needed for health and safety and security.)

9. FINAL CLEANUP AND DEMOBILIZATION

- a. Upon completion of the Work, decontaminate (if necessary) and remove all materials and equipment brought to the Site.
- b. Leave the Site clear of all debris, including thoroughly sweeping all paved areas.
- c. Remove any temporary fencing that was installed.
- d. Repair any damage to fences, buildings, streets, parking lots, curbs, landscaping, and other property caused by Contractor's activities.
- e. Decontaminate all equipment, vehicles, or other items prior to removal from the Site.

**PART 2 - PRODUCTS
NOT USED**

**PART 3 - EXECUTION
NOT USED**

-END OF SECTION-

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SECTION 01 74 00

CLEANING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Progress Cleaning
- B. Final Cleaning

1.2 PROGRESS CLEANING

- A. Contractor shall perform cleaning to ensure that any streets and other City and public properties are maintained free from accumulation of waste materials, dust, mud, and debris.
- B. Where required, Contractor shall wet down surfaces to lay dust and prevent the blowing of dust to nearby residences or public properties.
- C. Contractor shall keep all paved roads clean and free of dust, mud, and debris resulting from Contractor's operations. Daily cleanup throughout the job will be necessary as Contractor progresses with its Work, but extra attention to cleanup shall be made prior to weekends and holidays. Without limiting the foregoing, Contractor shall remove trench spoil along traveled ways daily; grade and vacuum broom surfaces initially where applicable and later water flush with high-pressure sprays, being careful to avoid downstream contamination.
- D. All dust, mud, spoils, and construction debris shall be removed daily from all roadways, ditches, shoulders, and private property (fills or spoils placed on private property at private property owner's written request excepted).
- E. Disposal of Materials:
 - 1. All waste materials, debris, and rubbish shall be legally disposed of at sites to be chosen by Contractor in accordance with applicable local, state, and federal regulations.
 - 2. Contractor is cautioned that the City of San Bruno and County of San Mateo have regulations governing the disposal of rubble, broken pavement, and similar materials.
 - 3. Become familiarized with the requirements of the agency having jurisdiction over any contemplated disposal site and shall comply with all such requirements.
- F. All excess soil from performance of Work shall be legally disposed at sites to be chosen by Contractor in accordance with applicable local, state, and federal regulations. If Contractor elects to dispose of soil on any private property, prior to any dumping, a letter allowing such dumping shall be obtained from the property owner and presented to City. Contractor is advised that the property

owner is required to obtain a grading permit from City. In addition, placement of fill in wetland areas is subject to permit procedures of the US Army Corps of Engineers. At the completion of Work, a letter from each affected property owner will be required releasing Contractor, City, and any City consultant from future liability.

- G. If Contractor does not properly clean the Site, in the opinion of City, then City shall have the option of using outside equipment to perform the cleanup and such cost will be withheld from the Contract Sum.

1.3 FINAL CLEANING

- A. Contractor shall execute final cleaning prior to final inspection, using only properly skilled workers.
- B. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from exposed interior and exterior finished surfaces.
- C. Repair, patch, and touch up marred surfaces to match adjacent finishes.
- D. Clean interior and exterior surfaces exposed to view: remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- E. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.
- F. Clean Site.
- G. Mechanically sweep paved areas.
- H. Remove waste and surplus materials, rubbish, and construction facilities from Site.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

-END OF SECTION-

SECTION 01 77 00

CONTRACT CLOSEOUT

PART 1 - GENERAL

This section includes the following description of Contract closeout procedures:

1. Removal of Temporary Construction Facilities
2. Substantial Completion
3. Final Completion
4. Project Record Documents
5. Project Guarantee
6. Warranties
7. Turn-In
8. Release of Claims

1.1 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to specified condition.
- D. Comply with Paragraph 1.14 of Section 01 51 00 (Temporary Facilities and Controls).

1.2 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work or designated portion of the Work as Substantially Complete, submit written notice to City, with list of items remaining to be completed or corrected.
- B. Within reasonable time, City will inspect to determine status of completion.
- C. Should City determine that Work is not Substantially Complete, City will promptly notify Contractor in writing, listing all defects and omissions.
- D. Remedy deficiencies and send a second written notice of Substantial Completion. City will re-inspect the Work. If deficiencies previously noted are not corrected on re-inspection, then pay the cost of the re-inspection.
- E. When City concurs that Work is Substantially Complete, City will issue a Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified by City.
- F. Manufactured units, equipment and systems that require startup must have been started up and run for periods prescribed by City before a Certificate of Substantial Completion will be issued.

- G. A punch list examination will be performed upon Substantial Completion. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse City for costs associated with these visits.

1.3 FINAL COMPLETION

- A. Final Completion occurs when Work meets requirements for City's Final Acceptance. When Contractor considers Work is Finally Complete, submit written certification that:
 - 1. Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.
 - 2. Except for Contractor maintenance after Final Acceptance, Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of City, and are operative.
 - 3. Work is complete and ready for final inspection.
- B. In addition to submittals required by Contract Documents, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- C. When City finds Work is acceptable and final closeout submittals are complete, City will issue final Change Order reflecting approved adjustments to Contract Sum not previously made by Change Order. Should City determine that Work is incomplete or defective.
 - 1. City promptly will so notify Contractor, in writing, listing the incomplete or Defective items.
 - 2. Promptly remedy the deficiencies and notify the City when it is ready for re-inspection.
 - 3. When City determines that the Work is acceptable under the Contract Documents, City will request Contractor to make closeout submittals.
- D. Final adjustments of accounts:
 - 1. Submit a final statement of accounting to City, showing all adjustments to the Contract Sum and complete and execute Document 00 52 17 (Agreement and Release of Any and All Claims).
 - 2. If so required, City shall prepare a final Change Order for submittal to Contractor, showing adjustments to the Contract Sum that were not previously made into a Contract Modification.

1.4 PROJECT RECORD DOCUMENTS

- A. Contract Documents will not be closed out and final payment will not be made until completion and submittal of Project Record Documents described in Section 01 78 39 (Project Record Documents).

1.5 PROJECT GUARANTEE

- A. Requirements for Contractor's guarantee of completed Work are included in Article 9 of Document 00 72 00 (General Conditions). Guarantee Work done under Contract against failures, leaks, or breaks or other unsatisfactory conditions due to defective equipment, materials, or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of one year from date of Final Acceptance.
- B. Neither recordation of Final Acceptance nor final certificate for payment nor provision of the Contract nor partial or entire use or occupancy of premises by City shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.
- C. City may make repairs to Defective Work as set forth in Document 00 72 00, Paragraph 9.3.
- D. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to City, City shall have right to operate and use materials or equipment until said materials and equipment can, without damage to City, be taken out of service for correction or replacement. Period of use of Defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.
- E. Nothing in this Section shall be construed to limit, relieve, or release Contractor's, Subcontractors', and equipment suppliers' liability to City for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees, or Subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by City of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for Defective workmanship or Defective materials under laws of this State pertaining to acts of negligence.

1.6 WARRANTIES

- A. Execute Contractor's Submittals and assemble warranty documents, and Installation, Operation, and Maintenance Manuals described in Section 01 33 00 (Submittal Procedures), executed or supplied by Subcontractors, suppliers, and manufacturers.
 - 1. Provide table of contents and assemble in 8½ inches by 11 inches three-ring binder with durable plastic cover, appropriately separated and organized.
 - 2. Assemble in Specification Section order.

- B. Submit material prior to final Application for Payment.
 - 1. For equipment put into use with City's permission during construction, submit within 14 Days after first operation
 - 2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated Submittal within fourteen (14) Days after acceptance, listing date of acceptance as start of warranty period.
- C. Warranties are intended to protect City against failure of Work and against deficient, Defective, and faulty materials and workmanship, regardless of sources.
- D. Limitations: Warranties are not intended to cover failures that result from the following:
 - 1. Unusual or abnormal phenomena of the elements
 - 2. Vandalism after Substantial Completion
 - 3. Insurrection or acts of aggression including war
- E. Related Damages and Losses: Remove and replace Work which is damaged as result of Defective Work, or which must be removed and replaced to provide access for correction of warranted Work.
- F. Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than one year after corrected Work was done, whichever is later.
- G. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
- H. Warranty Forms: Submit drafts to City for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.
 - 1. Warranty shall be countersigned by manufacturers.
 - 2. Where specified, warranty shall be countersigned by Subcontractors and installers.
- I. Rejection of Warranties: City reserves right to reject unsolicited and coincidental product warranties that detract from or confuse requirements or interpretations of Contract Documents.
- J. Term of Warranties: For materials, equipment, systems, and workmanship, warranty period shall be one (1) year minimum from date of Final Completion of entire Work except where:
 - 1. Detailed Specifications for certain materials, equipment or systems require longer warranty periods
 - 2. Materials, equipment or systems are put into beneficial use of City prior to Final Completion as agreed to in writing by City

K. Warranty of Title: No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to City free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of City.

1.7 TURN-IN

A. Contract Documents will not be closed out and final payment will not be made until all keys issued to Contractor during prosecution of Work and letters from property owners, pursuant to Paragraph 1.2.F of Document 01 74 00 (Cleaning), are turned in to City.

1.8 RELEASE OF CLAIMS

A. Contract Documents will not be closed out and final payment will not be made until Document 00 52 17 (Agreement and Release of Any and All Claims) is completed and executed by Contractor and City.

**PART 2 - PRODUCTS
NOT USED**

**PART 3 – EXECUTION
NOT USED**

-END OF SECTION-

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SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for the following Project Record Documents:
 - a. Project Record Drawings, Shop Drawings
 - b. Project Record Specifications
 - c. Project Record Product Data
 - d. Miscellaneous Project Record Submittals
- B. Specific Project Record Documents requirements that expand requirements of this Section may be included in the individual Sections of Division 2.

1.2 SUBMITTAL

A. At completion of Project, Contractor shall deliver Project Record Documents to City. Project Record Documents required include:

1. Marked-up copies of Drawings
2. Marked-up copies of Shop Drawings
3. Marked-up copies of Specifications, Addenda, Change Orders, and CCDs
4. Marked-up Product Data submittals
5. Final set of Project Record Drawings, including electronic version
6. Final set of Project Record Specifications
7. Final set of Project Record Product Data
8. Record Samples
9. Field records for variable and concealed conditions
10. Record information on Work that is recorded only schematically

B. Contractor shall accompany submittal with transmittal letter containing:

1. Date
2. Project title and City's Contract number
3. Contractor's name and address
4. Number and title of each Project Record Document
5. Certification that each document as submitted is complete and accurate, and signature of Contractor or Contractor's authorized representative.

1.3 GENERAL

- A. City will provide one full size set of Drawings and one copy of the Project Manual for Contractor's use for recording as-built conditions.
- B. Contractor shall post changes and Modifications to the Contract Documents as they occur. Do not wait until the end of the Project. City may periodically review Project Record Documents to assure compliance with this requirement.
- C. Contractor shall refer instances of uncertainty to City for resolution.
- D. Maintenance of Documents and Samples:
 - 1. Contractor shall store Project Record Documents and Samples in the field office apart from Contract Documents used for construction.
 - 2. Do not permit Project Record Documents to be used for construction purposes.
 - 3. Contractor shall maintain Project Record Documents in good order and in a clean, dry, legible condition.
 - 4. Contractor shall make Project Record Documents and Samples available at all times for inspection by City.

1.4 PROJECT RECORD DRAWINGS, SHOP DRAWINGS, AND SAMPLES

- A. Quality Draftsmanship: All Work on Project Record Drawings and Project Record Shop Drawings shall be performed by competent drafters and shall be clear and fully legible. City shall be the sole judge of the acceptability of the Project Record Drawings and Project Record Shop Drawings.
- B. Mark-up Procedure: During the construction period, Contractor shall maintain a set of Drawings of Drawings and Shop Drawings for Project Record Documents purposes ("Field Set"). Contractor shall stamp each document (on each sheet or page) "PROJECT RECORD" in 2-inch high letters. Contractor shall also maintain a set of Samples for Project Record Documents purposes. Contractor shall keep record documents current. Note: A reference by number to a Change Order, CCD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.
 - 1. Mark Drawings and Shop Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
 - a. Dimensional changes to the Drawings and Shop Drawings
 - b. Revisions to details shown on the Drawings and Shop Drawings
 - c. Depths of various elements of foundation in relation to main floor level or survey datum

- d. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements
 - e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure
 - f. Locations of underground Work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations, and similar items
 - g. Actual numbering and set points of each electrical circuit
 - h. Field changes of dimension and detail
 - i. Revisions to routing of piping and conduits
 - j. Revisions to electrical circuitry
 - k. Actual equipment locations
 - l. Duct, conduit, and cable size and routing
 - m. Changes made by Change Order or CCD
 - n. Details not on original Drawings or Shop Drawings
2. Mark completely and accurately Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Drawings location.
 3. Mark important additional information that was either shown schematically or omitted from original Drawings
 4. Note CCD numbers, Alternate numbers, Change Order numbers, and similar identification
 5. **Mark Contract Drawings and Shop Drawings with red, erasable colored pencil.**
 6. Mark Samples to record changes made after review
 7. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing or Shop Drawing data, whether the individual or entity is the installer, Subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings or Shop Drawings
 - a. Accurately record information in an understandable and legible drawing technique.
 - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- C. Preparation of Project Record Drawings and Project Record Shop Drawings: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings and Project Record Shop Drawings with City. When authorized, prepare final Project Record Drawings and Project Record Shop Drawings.

1.5 PROJECT RECORD SPECIFICATIONS

- A. During the construction period, Contractor shall maintain one copy of the Specifications, including Addenda and Modifications issued, for Project Record Documents purposes.
- B. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and CCD Work, and information on concealed installation that would be difficult to identify or measure and record later.
 - 1. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - 2. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and Installation, Operation, and Maintenance Manuals.
 - 3. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in Installation, Operation, and Maintenance Manuals instead of submitted as Project Record Product Data.
- C. Preparation of Project Record Specifications: Immediately prior to inspection for Certification of Substantial Completion, review completed Field Set Project Record Specifications with City. When authorized, prepare final Project Record Specifications.
 - 1. After Substantial Completion and before Final Completion, carefully transfer all data shown on the Field Set to a separate clean set of Specifications provided by City. Include the printed designation "PROJECT RECORD SPECIFICATION" in a prominent location on the Specifications.

1.6 PROJECT RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Product Data submittal for Project Record Document purposes.
 - 1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the Site, and changes in manufacturer's instructions and recommendations for installation.
 - 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
4. Upon completion of mark-up, submit a complete set of Project Record Product Data to City for City's records.
5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
6. The Contractor is responsible for mark-up and submittal of Project Record Product Data for the Work.

B. Material, Equipment, and Finish Data:

1. Provide data for primary materials, equipment, and finishes as required under each Specification Section
2. Submit two sets prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume
3. Arrange by Specification Section number and give names, addresses, and telephone numbers of Subcontractors and suppliers. List:
 - a. Trade names
 - b. Model or type numbers
 - c. Assembly diagrams
 - d. Operating instructions
 - e. Cleaning instructions
 - f. Maintenance instructions
 - g. Recommended spare parts
 - h. Product data

1.7 MISCELLANEOUS PROJECT RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the City for City's records. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:
1. Field records on excavations and foundations
 2. Field records on underground construction and similar Work
 3. Survey showing locations and elevations of underground lines
 4. Invert elevations of drainage piping
 5. Surveys establishing lines and levels
 6. Authorized measurements utilizing unit prices or allowances

7. Ambient and substrate condition tests
8. Certifications received in lieu of labels on bulk products
9. Batch mixing and bulk delivery records
10. Testing and qualification of tradespersons
11. Documented qualification of installation firms
12. Load and performance testing
13. Inspections and certifications by governing authorities
14. Leakage and water-penetration tests
15. Final inspection and correction procedures

**PART 2 – PRODUCTS
NOT USED**

**PART 3 – EXECUTION
NOT USED**

-END OF SECTION-

SECTION 03 11 03

CONCRETE FORMWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Falsework and formwork, as required to construct cast-in-place concrete, including placing of all items such as sleeves, anchor bolts, inserts and all other items to be embedded in concrete for which placement is not specifically provided under other Sections.
- B. REFERENCES
 - 1. American Concrete Institute (ACI)
 - a. ACI 301, Specifications for Structural Concrete for Buildings.
 - b. ACI 347, Guide for Concrete Formwork.

1.2 SYSTEM DESCRIPTION

- A. Coordination:
 - 1. Review installation procedures under other Sections and coordinate the installation of items that must be installed with the formwork.
 - 2. Coordinate formwork specifications herein with the requirements for finished surfaces specified in Section 03 30 03, Cast-In-Place Concrete.

1.3 SUBMITTALS

- A. Submit for information purposes the following: Copies of manufacturer's data and installation instructions for all proprietary materials, including form coatings, manufactured form systems, ties and accessories.

1.4 QUALITY ASSURANCE

- A. Allowable Tolerances: Construct formwork to provide completed concrete surfaces complying with tolerances specified in ACI 347, Chapter 3.3, except as otherwise specified.
- B. Furnish and install all items for permanent or temporary facilities in accordance with manufacturer's instructions.

PART 2 – PRODUCTS

2.1 FORM MATERIALS

- A. Forms for Exposed Finish Concrete: Unless otherwise shown or specified, construct formwork for exposed concrete surfaces with plywood overlaid with MDO or HDO specifically designed for concrete forms, metal, metal-framed plywood-faced or other acceptable panel materials, to provide continuous, straight, smooth as-cast surfaces. Furnish in largest practical sizes to minimize number of joints. Provide form material with sufficient thickness to remain watertight and withstand pressure of newly placed concrete without bow or deflection.

- B. Forms for Unexposed Finish Concrete: Form concrete surfaces that will be unexposed in the finished structure with plywood, lumber, metal, or other acceptable material. Provide lumber that is dressed on at least 2 edges and 1 side.
- C. Form Ties:
 - 1. Form ties on exposed surfaces shall be located in a uniform pattern or as indicated on the Drawings. Form ties shall be constructed so that the tie remains embedded in the wall, except for a removable portion at each end. Form ties shall have conical or spherical type inserts, inserts shall be fixed so that they remain in contact with forming material, and shall be constructed so that no metal is within 1 inch of the concrete surface when the forms, inserts, and tie ends are removed. Wire ties will not be permitted. Ties shall withstand all pressures and limit deflection of forms to acceptable limits.
 - 2. Flat bar ties for panel forms shall have plastic or rubber inserts having a minimum depth of 1 inch and sufficient dimensions to permit proper patching of the tie hole.
- D. Forms Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain, nor adversely affect concrete surfaces, and will not impair subsequent treatment of concrete surfaces requiring bond or adhesion, nor impede the wetting of surfaces to be cured with water or curing compounds.

2.2 DESIGN OF FORMWORK

- A. The CONTRACTOR shall design all formwork prior to fabrication. The design shall account for all the tolerances, form ties, finishes, architectural features, rebar supports, construction joint locations, and other features and other nonstructural formwork requirements specified. Forms shall contain pouring and observation windows to allow placement of concrete through windows or shall be staged to allow visual observation at all times of the fresh concrete to ensure correct placement and vibration. Provide a formwork and placement design that will limit free fall of concrete in forms 8-inch or less in width to 5 feet; and for forms wider than 8 inches, limit this fall to 8 feet, except as hereinafter specified. Review methods with ENGINEER prior to start of work. Use placement devices, such as chutes, pouring spouts, pumps, as required.
- B. Reuse of forms will be permitted only if a "like new" condition, unless otherwise approved in writing, is maintained. The ENGINEER shall be notified 1 full working day prior to concrete placement so that the forms can be inspected. The CONTRACTOR shall correct any defective work, found in the ENGINEER's inspection, prior to delivery of concrete to the project. Formwork surfaces that were in good condition and accepted for use, but were damaged during removal and handling shall not be reused on additional pours. The CONTRACTOR is expected to take care in the handling of forms and to obtain approval of form surfaces prior to each reuse.
- C. All forms, falsework, shoring, and other structural formwork required shall be structurally designed by the CONTRACTOR and the design shall comply with all applicable safety regulations, current OSHA regulations, and other codes. Where federal or state agencies require a licensed engineer to prepare and/or seal all formwork, falsework or shoring designs, the CONTRACTOR shall hire this engineer and pay all costs. The designs shall be made available to any

governing agency upon request. Comply with applicable portions of ACI 347, ACI 318 current edition, and these Specifications. All design, supervision, and construction for safety of property and personnel shall be the CONTRACTOR's full responsibility.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Examine the substrate and the conditions under which Work is to be performed with installer and notify ENGINEER, in writing, of unsatisfactory conditions. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to ENGINEER.

3.2 FORM CONSTRUCTION

- A. Construct forms complying with ACI 347; to the exact sizes, shapes, lines and dimensions shown; as required to obtain accurate alignment, location and grades; to tolerances specified; and to obtain level and plumb work in finish structures. Provide for openings, offsets, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages and inserts, and other features required. Use selected materials to obtain required finishes. Finish shall be as determined by approved mock-up or sample panel, if specified.
- B. Fabricate forms for easy removal without damaging concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where the slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and assure ease of removal.
- C. Forms for Exposed To View Concrete:
 - 1. Do not use metal cover plates for patching holes or defects in forms.
 - 2. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back joints with extra studs or girts to maintain true, square intersections.
 - 3. Use extra studs, walers and bracing to prevent bowing of forms between studs and to avoid bowed appearance in concrete. Do not use narrow strips of form material that will produce bow.
 - 4. Assemble forms so they may be readily removed without damage to exposed concrete surfaces.
 - 5. Form molding shapes, recesses, rustication joints and projections with smooth-finish materials, and install in forms with sealed joints to prevent displacement.
- D. Corner Treatment:
 - 1. Form exposed corners of beams, walls, foundations, bases and columns to produce smooth, solid, unbroken lines, except as otherwise shown. Except as specified below for reentrant or internal corners, exposed corners shall be chamfered.

2. Form chamfers with $\frac{3}{4}$ -inch x $\frac{3}{4}$ -inch strips, unless otherwise shown, accurately formed and surfaced to produce uniformly straight lines and tight edge joints. Use rigid PVC chamfers for all architecturally formed concrete. Extend terminal edges to require limit and miter chamfer strips at changes in direction.
 3. Reentrant or internal corners and unexposed corners need not be formed chamfered.
- E. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is to be placed. Retighten forms immediately after concrete placement as required to eliminate mortar leaks.

3.3 FORM COATINGS

- A. Coat form contact surfaces with a non-staining form-coating compound before reinforcement is placed. Do not allow excess form coating material to accumulate in the forms or to come into contact with surfaces that will be bonded to fresh concrete. Apply in compliance with manufacturer's instructions.
- B. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

3.4 INSTALLATION OF EMBEDDED ITEMS

- A. Set and build into the formwork, anchorage devices and other embedded items, shown, specified or required by other Sections and other contracts. Use necessary setting drawings, diagrams, instructions and directions.
- B. Edge Forms and Screeds Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in the finished slab surface. Provide and secure units to support screeds.

3.5 FIELD QUALITY CONTROL

- A. Before concrete placement, check the formwork, including tolerances, lines, ties, tie cones, and form coatings. Make corrections and adjustments to ensure proper size and location of concrete members and stability of forming systems.
- B. During concrete placement check formwork and related supports to ensure that forms are not displaced and that completed Work is within specified tolerances.
- C. If forms are unsatisfactory in any way, either before or during placing of concrete, postpone or stop placement of concrete until the defects have been corrected, and reviewed by ENGINEER.

3.6 REMOVAL OF FORMS

- A. Conform to the requirements of ACI 301, Chapter 2 and ACI 347, Chapter 3.7 except as specified below.
- B. Leave form-facing material in place a minimum of 4 days after concrete placement, unless otherwise approved by ENGINEER.

3.7 RE-USE OF FORMS

- A. Clean and repair surfaces of forms to be re-used in the Work. Split, frayed, delaminated or otherwise damaged form facing material will not be acceptable. Apply new form coating compound material to concrete contact surfaces as specified for new formwork.
- B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close all joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces. Form surfaces shall be subject to ENGINEER'S approval.

END OF SECTION

SECTION 03 21 03

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Fabrication and placement of reinforcement including bars, ties and supports, and welded wire fabric for concrete, encasements and fireproofing.

1.2 SUBMITTALS

- A. Certificates: Submit one (1) copy of steel producer's certificates of mill analysis, tensile and bend tests for reinforcing steel.

1.3 QUALITY ASSURANCE

- A. Reference Standards: Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified:
 - 1. American Concrete Institute (ACI):
 - a. ACI 315, Manual of Engineering and Placing Drawings for Reinforced Concrete Structures.
 - b. ACI 318, Building Code Requirements for Reinforced Concrete.
 - 2. Concrete Reinforcing Steel Institute:
 - a. Manual of Standard Practice, includes ASTM standards referred to herein.
 - b. Allowable Placing Tolerances: Comply with ACI 318, Chapter 7 - Details of Reinforcement.

1.4 DELIVERY, HANDLING AND STORAGE

- A. Deliver concrete reinforcement materials to the site bundled, tagged and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on placement diagrams.
- B. Store concrete reinforcement material at the site to prevent damage and accumulation of dirt or excessive rust. Store on heavy wood blocking so that no part of it will come in contact with the ground.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. A. Reinforcing Bars: ASTM A615, Grade 60 for all non-welded bars. ASTM A706, Grade 60 for welded bars.
- B. Smooth Steel Dowels: ASTM A36.
 - 1. Epoxy coated conforming to ASTM A775 or ASTM A934.

- C. Mechanical Couplers: Reinforcement bars may be spliced with a mechanical connection. Provide a full mechanical connection which shall develop in tension or compression, as required, at least 125% of specified yield strength (f_y) of the bar in accordance with ACI 318 Section 12.14.3.2. The locations of the connections are subject to the approval of the ENGINEER.
 - 1. Dayton Superior Bar Lock S/CA Series.
 - 2. Or approved equal
- D. Threaded Splicing Systems: Dowel Bar Splicer System shall comply with ICC Report #4028. The completed splice shall exceed 160% of the specified yield strength (f_y) of the bar.
 - 1. Dayton Superior DB/DI parallel threaded couplers.
 - 2. Or approved equal
- E. Steel Wire: ASTM A82.
- F. Welded Wire Fabric: ASTM A185. Furnish in flat sheets, not rolls.
- G. Column Spirals: Hot-rolled rods for spirals, ASTM A615.
- H. Supports for Reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place.
 - 1. Use wire bar type supports complying with CRSI recommendations, except as specified below. Do not use wood, brick, or other unacceptable materials.
 - 2. For slabs on grade, use 5000 psi concrete blocks.
 - 3. At all formed surfaces, provide supports complying with CRSI "Manual of Standard Practice" as follows: Plastic protected or stainless steel legs.
 - 4. For all PVC lined concrete surfaces, provide supports complying with CRSI "Manual of Standard Practice" as follows: Either plastic or metal plastic protected legs.

2.2 FABRICATION

- A. General: Fabricate reinforcing bars to conform to required shapes and dimensions, with fabrication tolerances complying with CRSI, "Manual of Standard Practice". In case of fabricating errors, do not re-bend or straighten reinforcement in a manner that will injure or weaken the material.
- B. Unacceptable Materials: Reinforcement with any of the following defects will not be permitted in the Work:
 - 1. Bar lengths, bends, and other dimensions exceeding specified fabrication tolerances.
 - 2. Bends or kinks not shown on approved Shop Drawings.
 - 3. Bars with reduced cross-section due to excessive rusting or other cause.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Examine substrate and conditions under which concrete reinforcement is to be placed with installer, and notify ENGINEER, in writing, of unsatisfactory conditions. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to ENGINEER.

3.2 INSTALLATION

- A. Comply with the applicable recommendations of specified codes and standards, and CRSI, Manual of Standard Practice, for details and methods of reinforcement placement and supports.
- B. Clean reinforcement to remove loose rust and mill scale, oil, earth, ice, and other materials that reduce or destroy bond with concrete.
- C. Position, support, and secure reinforcement against displacement during formwork construction or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers, as required.
 - 1. Place reinforcement to obtain the minimum concrete cover as shown. Arrange, space, and securely tie bars and bar supports together with 16-gage wire to hold reinforcement accurately in position during concrete placement operations.
 - 2. Bar supports shall be placed no further than 4 feet apart in each direction. Supports must be completely concealed in the concrete and shall not discolor or otherwise mar the surface of the concrete.
 - 3. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.
 - 4. Do not secure reinforcing steel to forms with wire, nails or other ferrous metal. Do not permit metal supports subject to corrosion to touch or be within the required clearance to formed or exposed concrete surfaces.
- D. Install welded wire fabric in as long lengths as practical. Lap adjoining pieces at least one full mesh and lace splices with wire. Do not make end laps midway between supporting beams or directly over beams of continuous structures. Offset end laps in adjacent widths to prevent continuous laps.
- E. Provide sufficient numbers of supports of strength required to carry reinforcement. Do not place reinforcing bars more than 2 inches beyond the last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment or similar construction loads.
- F. Splices: Provide reinforcement lap splices by placing bars in contact, and tying tightly with wire. Comply with requirements shown for minimum lap of spliced bars.
- G. Mechanical Couplers in Lieu of Lap Splicing:
 - 1. Provide mechanical butt splices in accordance with the recommendation of the manufacturer of the mechanical splicing device. Butt splices shall develop 125 percent of the specified minimum yield tensile strength of the spliced bars or of the smaller bar in transition splices. Flame dry bars before butt splicing. Provide adequate jigs and clamps or other devices to support, align, and hold the longitudinal centerline of the bars to be butt spliced in a straight line.
- H. Reinforcement Around Openings: Place an equivalent area of steel around the pipe or opening and extend on each side sufficiently to develop bond in each bar. See the Details on Drawings for bar extension length each side of opening. Where welded wire fabric is used, provide extra reinforcing using fabric or deformed bars.
- I. Field Bending: Field bending of reinforcing steel bars is not permitted when rebending will later be required to straighten bars. Rebending of bars at the

same place where strain hardening has taken place due to the original bend will damage the bar. Consult with the ENGINEER prior to any pour if the CONTRACTOR foresees a need to work out a solution to prevent field bending.

3.3 INSPECTION OF REINFORCEMENT

- A. Do not place concrete until the reinforcing steel is inspected and permission for placing concrete is granted by ENGINEER. All concrete placed in violation of this provision will be rejected.

END OF SECTION

SECTION 03 30 03

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes: Place, finish, cure, strip, and repair concrete.

1.2 REFERENCES

- A. American Concrete Institute (ACI)
1. ACI 211.1, Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
 2. ACI 214, Recommended Practice for Evaluation of Strength Test Results of Concrete.
 3. ACI 301, Specifications for Structural Concrete for Buildings, (includes ASTM Standards referred to herein).
 4. ACI 304, Guide for Measuring, Mixing, Transporting and Placing Concrete.
 5. ACI 305, Hot Weather Concreting.
 6. ACI 306, Cold Weather Concreting.
 7. ACI 309, Guide for Consolidation of Concrete.
 8. ACI 311, Guide for Concrete Inspection.
 9. ACI 318, Building Code Requirements for Reinforced Concrete.
 10. ACI 347, Guide to Formwork for Concrete
 11. ACI 350, Environmental Engineering Concrete Structures.

1.3 SYSTEM DESCRIPTION

- A. Class A Concrete shall be steel reinforced and includes:
1. Equipment bases.
- B. Class B Concrete shall be placed without forms or with simple forms, with little or no reinforcing, and includes:
1. Concrete fill.
 2. Curbs and gutters.
 3. Sidewalks.

1.4 SUBMITTALS

- A. Samples: Submit samples of materials as specified and as otherwise may be requested by ENGINEER, including names, sources and descriptions.
- B. Product Data: Submit for approval the following:
1. Manufacturer's specifications with application and installation instructions for proprietary materials and items, including admixtures and bonding agents.
 2. List of concrete materials and concrete mix designs proposed for use. Include the results of all tests performed to qualify the materials and to establish the mix designs.

- C. Laboratory Test Reports: Submit copies of laboratory test reports for materials and mix design tests
- D. Delivery Tickets: Furnish to ENGINEER copies of all weighmaster certificate delivery tickets for each load of concrete delivered to the site. Provide items of information as specified in ASTM C94, Section 16. Delivery tickets shall be signed by a Certified Weighmaster.

1.5 QUALITY ASSURANCE

- A. Tests for Concrete Materials: Submit written reports to ENGINEER, for each material sampled and tested, prior to the start of Work. Provide the Project identification name and number, date of report, name of CONTRACTOR, name of concrete testing service, source of concrete aggregates, material manufacturer and brand name for manufactured materials, values specified in the referenced specification for each material, and test results. Indicate whether or not material is acceptable for intended use.
- B. If the concrete mix designs specified herein have not been used previously by the ready-mix supplier, mix proportions and concrete strength curves for regular cylinder tests shall be established by an approved ready-mix supplier or an independent testing laboratory based on the relationship of 7, 14 and 28 day strengths versus slump values of 2, 4 and 6 inches, all conforming to these Specifications. A laboratory, independent of the ready-mix supplier, shall be required to prepare and test all concrete cylinders. The costs for preparation of mix designs, not previously used by the ready-mix supplier, and testing of concrete and materials shall be borne by CONTRACTOR.

PART 2 – PRODUCTS

2.1 CONCRETE MATERIALS

- A. Cement:
 - 1. Portland cement, ASTM C150, Type II; or blended hydraulic cement, ASTM C595, Type 1P (MS).
 - 2. Do not use cement which has deteriorated because of improper storage or handling.
- B. Aggregates: ASTM C33 and as herein specified.
 - 1. Do not use aggregates containing soluble salts, substances such as iron sulfides, pyrite, marcasite, ochre, or other materials that can cause stains on exposed concrete surfaces.
 - 2. Fine Aggregate: Provide clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances.
 - 3. Coarse Aggregate: Provide clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
 - a. Crushed stone, processed from natural rock or stone.
 - b. Coarse Aggregate Size: Size to be ASTM C33, Nos. 57 or 67, except that No. 467 may be used for footings, foundation mats and walls 16 inches or greater in thickness.

- C. Water: Clean, free from injurious amounts of oils, acids, alkalis, organic materials or other substances that may be deleterious to concrete or steel.

2.2 CONCRETE ADMIXTURE

- A. Provide admixtures produced by established reputable manufacturers, and use in compliance with the manufacturer's printed instruction. Do not use admixtures that have not been incorporated and tested in the accepted mixes, unless otherwise authorized in writing by ENGINEER.
- B. Air-Entraining Admixtures: ASTM C260.
 - 1. Product and Manufacturer: Provide one of the following:
 - a. SIKA AER, as manufactured by Sika Corporation.
 - b. MasterAir AE 200, as manufactured by BASF.
 - c. Daravair, as manufactured by W.R. Grace & Conn.
 - d. Or approved equal.
- C. High-Range Water-Reducing Admixture ("Superplasticizer"): ASTM C494, Type F/G.
 - 1. Superplasticizer shall be used in all Class A Concrete. Do not use high range water-reducing admixture containing more chloride ions than are contained in municipal drinking water. Add only at the job site to concrete in compliance with the manufacturer's printed instruction.
 - 2. Product and Manufacturer: Provide one of the following:
 - a. Sikament 320, as manufactured by Sika Corporation.
 - b. MasterGlenium, as manufactured by BASF.
 - c. Daracem-100, as manufactured by W.R. Grace & Conn.
 - d. Or approved equal.
- D. Water-Reducing Admixture: ASTM C 494, Type A.
 - 1. A water-reducing, aqueous solution of a modification of the salt of polyhydroxylated organic acids. Do not use admixture containing any lignin, nitrates or chlorides added during manufacture.
 - 2. Product and Manufacturer: Provide one of the following:
 - a. Eucon WR-75, as manufactured by The Euclid Chemical Company.
 - b. MasterPozzoloth, as manufactured by BASF.
 - c. WRDA series, as manufactured by W.R. Grace & Conn.
 - d. Or approved equal.
- E. Pozzolanic Admixtures:
 - 1. Pozzolanic admixtures shall not be used in structures with concrete in contact with potable water, but may be used in other concrete.
 - 2. Provide Mineral admixtures, when used, meeting the requirements of ASTM C618 Class F.
 - 3. A substitution by weight, of the portland cement by pozzolan, so that the total tricalcium aluminate content of the resulting cement plus pozzolan is not greater than 8%, will be considered. However, the pozzolan shall not exceed 20% by weight of the cement plus pozzolan.
- F. Set-Control Admixtures: ASTM C494, as follows:
 - 1. Type B, Retarding.
 - 2. Type C, Accelerating.

3. Type D, Water-reducing and Retarding.
 4. Type E, Water-reducing and Accelerating.
 5. Type F, Water-reducing, high range admixtures.
 6. Type G, Water-reducing, high range, and retarding admixtures.
- G. Color Pigments:
1. Color pigments for colored concrete must be of iron oxides complying with ASTM C979.
- H. Calcium Chloride: Do not use calcium chloride in concrete, unless otherwise authorized in writing by ENGINEER. Do not use admixtures containing calcium chloride where concrete is placed against galvanized steel.

2.3 PROPORTIONING AND DESIGN OF MIXES

A. Prepare design mixes of concrete. Mixes subject to the following limitations:

1. Class A Concrete
 - a. Specified 28-day Compressive Strength: 4,000 psi minimum.
 - b. Air content: 5% ± 1%. For concrete placed at least 2 feet below the adjacent grade, an air-entraining admixture is not required unless otherwise specified.
 - c. Slump, before addition of superplasticizer: 3½ inches ± ½ inches
 - d. Slump, after addition of superplasticizer: 8-inch maximum

Coarse Aggregate Size	Cementitious Content-Pounds Per Cubic Yard	Water-Cement Ratio by Weight
¾"	625 min, 800 max	0.375
1"	600 min, 800 max	0.385
1-1/2"	590 min, 800 max	0.400

- e. Use superplasticizer in all Class A Concrete. Use water reducers in combination with superplasticizers as required for mixing.
2. Class B Concrete
 - a. Specified 28-day Compressive Strength: 2,500 psi.
 - b. Maximum Water-Cement Ratio by Weight: 0.49.
 - c. Slump: 3-inch Minimum, 5-inch Maximum.
- B. Use an independent testing facility acceptable to ENGINEER for preparing and reporting proposed mix designs.
- C. Admixtures:
1. Use air-entraining admixture in all concrete, except interior slabs subject to abrasion, unless otherwise shown or specified. Add air-entraining admixture at the manufacturer's prescribed rate to result in concrete at the point of placement having air content within the prescribed limits.
 2. Use amounts of admixtures as recommended by the manufacturer for climatic conditions prevailing at the time of placing. Adjust quantities and types of admixtures as required to maintain quality control.
- D. Colored Concrete:
1. The dosage of colored pigments for colored concrete must not exceed 10 percent by weight of cementitious materials in the concrete mix design.

2. When test panels are specified, cementitious materials and aggregates from the same sources used in the authorized test panel must be used for the colored concrete in the completed work.

2.4 EPOXY BONDING AGENT

- A. For use in all dry-packed holes, concrete repair and for unplanned cold-joints.
- B. Provide an epoxy-resin bonding agent, two component, polysulfide type.
- C. Product and Manufacturer: Provide one of the following:
 1. Sikadur 32, Hi-Mod LPL, as manufactured by Sika Corporation.
 2. Eucopoxy LPL, as manufactured by the Euclid Chemical Company.
 3. Or approved equal.

2.5 CONCRETE CURING MATERIALS

- A. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 10 ounces per square yard and complying with AASHTO M182, Class 3.
- B. Moisture-Retaining Cover: One of the following, complying with ASTM C171.
 1. Waterproof paper.
 2. Polyethylene film.
 3. White burlap-polyethylene sheet.
- C. Curing Compound: ASTM C309 Type 1-D (water retention requirements):
 1. Product and Manufacturer: Provide one of the following:
 - a. Super Aqua Cure VOX, as manufactured by The Euclid Chemical Company.
 - b. Sealtight 1100, as manufactured by W.R. Meadows, Incorporated.
 - c. Or approved equal.
- D. Concrete Densifier and Chemical Hardener (Surface Applied)
 1. Product and Manufacturer: Provide one of the following:
 - a. LS, as manufactured by Consolideck.
 - b. Liqui-Hard, as manufactured by W. R. Meadows.
 - c. Duro-Nox LS, as manufactured by Nox-Crete.
 - d. Or approved equal.

2.6 EMBEDDED ITEMS

- A. Provide and install items such as plates, angles, inserts, bolts and similar items not specified elsewhere under this Section. Carbon steel embedded items shall be hot dip galvanized after fabrication.

PART 3 – EXECUTION

3.1 CONCRETE MIXING

- A. Provide concrete produced by the ready-mixed process.

- B. Comply with the requirements of ASTM C 94, and as herein specified. Proposed changes in mixing procedures, other than herein specified, must be accepted by ENGINEER before implementation.
 - 1. Plant equipment and facilities: Conform to National Ready- Mix Concrete Association "Plant and Delivery Equipment Specification."
 - 2. Mix concrete in revolving type truck mixers that are in good condition and which produce thoroughly mixed concrete of the specified consistency and strength.
 - 3. Do not exceed the proper capacity of the mixer.
 - 4. Mix concrete for a minimum of two minutes after arrival at the job site, or as recommended by the mixer manufacturer.
 - 5. Mix concrete during transit only as recommended by the mixer manufacturer.
 - 6. Mix at proper speed until concrete is discharged.
 - 7. Maintain adequate facilities at the job site for continuous delivery of concrete at the required rates.
 - 8. Provide access to the mixing plant for ENGINEER when requested.

3.2 TRANSPORTING CONCRETE

- A. Transport and place concrete not more than 90 minutes after water has been added to the dry ingredients or before 250 revolutions of the drum or blades, whichever occurs first.
- B. If an admixture is used to retard the set time and the concrete temperature does not exceed 85 degrees F, the travel and placing time may be extended to 120 minutes or 300 revolutions of the drum or blades, whichever occurs first.
- C. Take care to avoid spilling and separation of the mixture during transportation.
- D. Do not place concrete in which the ingredients have been separated.
- E. Do not retemper partially set concrete.
- F. Use suitable and approved equipment for transporting concrete from mixer to forms.

3.3 CONCRETE PLACEMENT

- A. General: Place concrete continuously so that no concrete will be placed on concrete, which has hardened sufficiently to cause the formation of seams or planes of weakness within the section. Deposit concrete as nearly as practical in its final location to avoid segregation due to rehandling or flowing. Do not subject concrete to any procedure that will cause segregation.
 - 1. Screed concrete that is to receive other construction to the proper level to avoid excessive skimming or grouting.
 - 2. Do not use concrete which becomes non-plastic and unworkable, or does not meet the required quality control limits, or which has been contaminated by foreign materials. Do not use retempered concrete. Remove rejected concrete from the job site and dispose of it in an acceptable location.
 - 3. Do not place concrete until all forms, bracing, reinforcement, and embedded items are in final and secure position.
 - 4. Do not place in cold weather, unless adequate precautions are taken against frost action.
 - 5. Do not place footings, piers or pile caps on frozen soil.

6. Unless otherwise approved, place concrete only when ENGINEER is present.
 7. Allow a minimum of 3 days of curing before placing new concrete against a slab already in place.
- B. Concrete Conveying:
1. Handle concrete from the point of delivery and transfer to the concrete conveying equipment and to the locations of final deposit as rapidly as practical by methods that will prevent segregation and loss of concrete mix materials.
 2. Provide mechanical equipment for conveying concrete to ensure a continuous flow of concrete at the delivery end. Provide runways for wheeled concrete conveying equipment from the concrete delivery point to the locations of final deposit. Keep interior surfaces of conveying equipment, including chutes, free of hardened concrete, debris, water, ice and other deleterious materials.
 3. Pumping concrete is permitted, however do not use aluminum pipe for conveying.
- C. Placing Concrete into Forms:
1. Deposit concrete in forms in horizontal layers not deeper than 24 inches and in a manner to avoid inclined construction joints. Where placement consists of several layers, place concrete at such a rate that concrete that is being integrated with fresh concrete is still plastic.
 2. Do not permit concrete to free fall within the form from a distance exceeding 8 feet, except as noted in Section 03 11 03, Concrete Formwork. Use “elephant trunks” or “wall pipes” to prevent free fall and excessive splashing on forms and reinforcement.
 3. Remove temporary spreaders in forms when concrete placing has reached the elevation of such spreaders.
 4. Consolidate concrete placed in forms by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with the applicable recommended practices of ACI 309. Vibration of forms and reinforcing will not be permitted.
 5. Vibrators shall have a frequency of at least 8,000 vpm, with amplitude required to consolidate the concrete in the section being placed. At least one stand-by vibrator in operable condition shall be at the placement site prior to initiating placement of the concrete.
 6. Do not use vibrators to transport concrete inside of forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate the layer of concrete and at least 6 inches into the preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion, limit the duration of vibration to the time necessary to consolidate the concrete and complete embedment of reinforcement and other embedded items without causing segregation of the mix.
 7. The forms shall contain sufficient windows or be limited in height to allow visual observation of the concrete and the vibrator operators shall be required to see the concrete being consolidated to ensure good quality workmanship or the CONTRACTOR shall have a person who is actually

- observing the vibration of the concrete at all times and advising the vibrator operators of any changes needed to assure complete consolidation.
8. Force concrete under pipes, sleeves, openings and inserts from one side until visible from the other side to prevent voids.
- D. Placing Concrete Slabs, Pads and Footings:
1. Deposit and consolidate concrete in a continuous operation, within the limits of construction joints, until the placing of a panel or section is completed.
 2. Consolidate concrete during placing operations using mechanical vibrating equipment, so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 3. Consolidate concrete placed in beams and girders of supported slabs, and against bulkheads of slabs on ground, as specified for formed concrete structures.
 4. Bring surfaces to the correct level. Smooth the surface, leaving it free of humps or hollows. Do not sprinkle water on the plastic surface. Do not disturb the surfaces prior to beginning finishing operations.
- E. Quality of Concrete Work:
1. Make all concrete solid, compact and smooth, and free of laitance, cracks and cold joints.
 2. All concrete for liquid retaining structures, and all concrete in contact with earth, water, or exposed directly to the elements shall be watertight.
 3. Cut out and properly replace to the extent ordered by ENGINEER, or repair to the satisfaction of ENGINEER, surfaces which contain cracks or voids, are unduly rough, or are in any way defective. Thin patches or plastering will not be acceptable.
 4. Repair all leaks through concrete, and cracks, holes or other defective concrete in areas of potential leakage and make watertight.
 5. Repair, remove, and replace defective concrete as ordered by ENGINEER at no additional cost to OWNER.
- F. Cold Weather Placing:
1. Protect all concrete Work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures, in compliance with the requirements of ACI 306 and as herein specified.
 2. When the air temperature has fallen to or may be expected to fall below 40°F, provide adequate means to maintain the temperature, in the area where concrete is being placed, at between 50°F and 70°F for at least seven days after placing. Provide temporary housings or coverings including tarpaulins or plastic film. Maintain the heat and protection, if necessary, to ensure that the ambient temperature does not fall more than 30°F in the 24 hours following the seven-day period. Avoid rapid dry-out of concrete due to overheating, and avoid thermal shock due to sudden cooling or heating.
 3. When air temperature has fallen to or is expected to fall below 40°F, uniformly heat all water and aggregates before mixing as required to obtain a concrete mixture temperature of not less than 55°F and not more than 85°F at point of placement.
 4. Do not use frozen materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials. Ascertain that forms, reinforcing steel, and adjacent concrete surfaces are entirely free of frost and ice before placing concrete.

5. When temperatures are expected to be below 32°F the night before the concrete is placed, then all reinforcing steel, forms and the ground shall be preheated, for a minimum of 12 hours, under a minimum temperature of 50°F.
 6. Do not use salt and other materials containing antifreeze agents or chemical accelerators, or set-control admixtures, unless approved by ENGINEER, in mix designs.
 7. Weather predictions made by the nearest NOAA station, and corrected for the local elevation and environmental conditions, may be used to determine whether cold weather protection shall be required. Thermometers will be used by ENGINEER and these readings shall determine whether cold weather protection shall be required and whether cold weather protection is adequate.
- G. Hot Weather Placing:
1. When hot weather conditions exist as any combination of high air temperature, low relative humidity and wind velocity that would seriously impair the quality and strength of concrete, place concrete as recommended by ACI 305 and as herein specified.
 2. Cool ingredients before mixing to maintain concrete temperature at time of placement below 85°F. No concrete shall be placed if its temperature exceeds 90°F. Mixing water may be chilled, or chopped ice may be used, or liquid nitrogen may be added. Ice, when introduced into the mixer shall be in such form that it will be completely melted and dispersed throughout the mix at the completion of the mixing time. The addition of ice shall not increase the specified water to cement ratio.
 3. Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that the steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.
 4. Thoroughly wet forms before placing concrete. Forms shall be free of standing water when concrete is placed.
 5. Do not use set-control admixtures, unless approved by ENGINEER in mix designs.
 6. Fog spray shall be used during finishing operations whenever necessary to avoid surface plastic shrinkage cracking. Fog spray shall also be used after finishing and before the specified curing is commenced to avoid surface plastic shrinkage cracking.
 7. Obtain ENGINEER'S approval of other methods and materials proposed for use.
- H. Removal of Forms:
1. The CONTRACTOR shall be responsible for all damage resulting from improper and premature removal of forms. Satisfy all applicable OSHA requirements with regard to safety of personnel and property.
 2. Forms and shoring for elevated structural slabs or beams shall remain in place in accordance with ACI 318, Chapter 6, and until the concrete has reached a compressive strength equal to the specified 28-day compressive strength as determined by test cylinders unless noted otherwise in Section 03 11 03, Concrete Formwork. Removal of all supports prior to obtaining adequate field cured cylinder results and reshoring shall not be permitted.
- I. Patching:

1. Patching of concrete shall provide an acceptable and structurally sound surface finish uniform in appearance or the CONTRACTOR shall upgrade the finish by other means at no additional cost.
2. Tie Holes: All tie holes, except where sealant is indicated, shall be filled with dry pack nonshrink grout. White cement shall be added as needed so the color of grout after curing matches the color of adjacent concrete. Tie holes shall be thoroughly sandblasted or roughened. Flush the patch area with water and allow to dry. Coat the surface of the existing concrete with an approved bonding agent prior to filling with nonshrink grout. Complete the repair in the time duration specified by the bonding agent manufacturer. The grout shall be rammed into place in thin layers and leveled to the plane of the surrounding concrete. Cure in accordance with the manufacturer's recommendations.
3. Defective Areas: Remove all defective concrete such as honeycombed areas and rock pockets out to sound concrete. Small shallow holes caused by air entrapment at the surface of the forms shall not be considered defects unless the amount is so great as to be considered not the standard of the industry and due primarily of poor workmanship. If chipping is required, the edges shall be perpendicular to the surface. Feather edges shall not be permitted. The defective area shall be filled with a nonshrink, nonmetallic, grout. Use an approved bonding agent on horizontal patches prior to placing nonmetallic, non shrink grout. Since some bonding agents may not be compatible for some vertical surface patching techniques, demonstrate all methods for repair of vertical surfaces using the actual materials, methods, and curing procedures required by the manufactures of the materials on the project site. The CONTRACTOR shall consult with representatives of the bonding agent manufacturer and the nonshrink grout manufacturer, and these representatives shall be onsite and assist in the demonstration.
4. Blockouts at Pipes or Other Penetrations: Conform to details shown or submit proposed blockouts for review. Use nonshrink, nonmetallic grout.

3.4 CONCRETE CURING AND PROTECTION

A. General:

1. Protect freshly placed concrete from premature drying and excessive cold or hot temperature, and maintain without drying at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete.
2. Start initial curing after placing and finishing concrete as soon as free moisture and bleed water sheen has disappeared from the concrete surface. Keep concrete continuously moist during initial curing.
3. Begin final curing procedures immediately following initial curing and before the concrete has dried. The total curing duration shall not be less than ten (10) days. For concrete sections over 30-inch thick, continue curing for an additional seven (7) days, minimum. Avoid rapid drying at the end of the final curing period.

B. Use one of the following methods as approved by ENGINEER:

1. Method 1: Protect surface by water ponding for the entire curing duration.

2. Method 2: Cover concrete surfaces and exposed edges with the specified absorptive cover, thoroughly saturating the cover with water, and keeping the absorptive cover continuously wet with sprinklers or porous hoses during the curing duration. Lap adjacent absorptive cover sections 3-inches minimum.
 3. Method 3: Cover the concrete surfaces and exposed edges with the specified moisture-retaining cover during the curing duration. Seal edges and seams with waterproof tape, adhesive or sand berm. Water must be introduced between the moisture-retaining cover and the concrete surface whenever moist drops cannot be detected on the concrete side of the cover or the concrete surface is noticeably dry.
 4. Method 4: Cover all exposed surfaces with 1-inch minimum layer of wet sand, earth, or sawdust and keep continuously wet for the curing duration.
 5. Method 5: Continuously sprinkle or fog exposed surfaces for the curing duration.
 6. Method 6: When approved by ENGINEER and as noted below, apply liquid curing compound immediately after final finishing when surface will no longer be damaged by traffic necessary to apply curing compound.
 - a. Apply the specified curing compound to concrete surfaces when permitted by ENGINEER. The compounds shall be applied by power spray equipment in accordance with the manufacturer's directions. Recoat areas, which are subjected to heavy rainfall within 3 hours after initial application. Maintain the continuity of the coating and repair damage to the coat during the entire curing period. Remove curing compound from exposed surfaces at the end of the curing duration.
- C. Temperature of Concrete During Curing:
1. When the nighttime low temperature may drop to 40°F or below, maintain the concrete temperature between 50°F and 70°F continuously throughout the curing period, by heating, covering, insulation or housing as required.
 2. When the daytime high temperature may rise to 90°F or above, maintain the concrete temperature at a minimum and reduce temperature variations by providing moist curing continuously for the concrete curing period.
 3. During either of the conditions specified above, the minimum curing time shall be 10 days (240 hours), after which coverings, housings, and insulation shall remain on the work for an additional 3 days, to allow gradual temperature equalization with the atmosphere.
- D. Protection from Mechanical Injury: During the curing period, protect concrete from damaging mechanical disturbances including load stresses, heavy shock, excessive vibration, and from damage caused by rain or flowing water. Protect all finished concrete surfaces from damage by subsequent construction operations.

3.5 FIELD QUALITY CONTROL

- A. The CONTRACTOR will employ a testing laboratory to perform field quality control testing. ENGINEER will direct the number of tests and cylinders required. Furnish all necessary assistance required by ENGINEER.
- B. Quality Control Testing During Construction:

1. Perform sampling and testing for field quality control during the placement of concrete, as follows:
 - a. Sampling Fresh Concrete: ASTM C172.
 - b. Slump: ASTM C143; one test for each concrete load at point of discharge; and one for each set of compressive strength test specimens.
 - c. Air Content: ASTM C231; one for the first concrete load, and one for every two concrete loads thereafter, or when required by an indication of change. Adjust mix if test results are unsatisfactory and resubmit for ENGINEER'S approval.
 - d. Compressive Strength Tests: ASTM C39; one set of 4 standard compression cylinders for each 100 cubic yards or fraction thereof, of each mix design placed in any one day; 1 specimen tested at 7 days, and 2 specimens tested at 28 days, 1 held. Cast, store and cure specimens as specified in ASTM C31.
 - 1) Adjust mix if test results are unsatisfactory and resubmit for ENGINEER'S approval.
 - 2) Concrete that does not meet the strength requirements is subject to rejection and removal from the Work, or to other such corrective measures as directed by ENGINEER, at the expense of CONTRACTOR.
 - e. Concrete Temperature: Test each time a slump test is made.
 2. Where questionable field conditions may exist during placing concrete or immediately thereafter, strength tests of specimens cured under field conditions will be required by ENGINEER to check the adequacy of curing and protecting of the concrete placed. Specimens shall be molded at the same time and from the same samples as the laboratory cured specimens.
 - a. Provide improved means and procedures for protecting concrete when the 28-day compressive strength of field-cured cylinders is less than 85% of companion laboratory-cured cylinders.
 - b. When laboratory-cured cylinder strengths are appreciably higher than the minimum required compressive strength, field-cured cylinder strengths need not exceed the minimum required compressive strength by more than 500 psi even though the 85 percent criterion is not met.
 3. The testing laboratory shall submit certified copies of test results directly to ENGINEER and CONTRACTOR after tests are made.
- C. Evaluation of Quality Control Tests:
1. Do not use concrete delivered to the final point of placement that has slump or temperature outside the specified values, nor that which is older than specified in section 3.2.
 2. Compressive strength tests for laboratory-cured cylinders will be considered satisfactory if the averages of all sets of three consecutive compressive strength tests results equal or exceed the 28 day design compressive strength of the type or class of concrete; and, no individual strength test falls below the required compressive strength by more than 500 psi.
 3. If the compressive strength tests fail to meet the minimum requirements specified, the concrete represented by such tests will be considered deficient in strength and subject to replacement, reconstruction or to other action approved by ENGINEER.

- D. Testing Concrete Structure for Strength:
1. When there is evidence that the strength of the in-place concrete does not meet specification requirements, provide the services of a concrete testing service to take cores drilled from hardened concrete for compressive strength determination at no additional expense to OWNER. Provide tests complying with ASTM C42 and the following:
 - a. Take at least three (3) representative cores from each member or suspect area at locations directed by ENGINEER.
 - b. Strength of concrete for each series of cores will be considered satisfactory if their average compressive strength is at least 85% and no single core is less than 75% of the 28 day required compressive strength.
 - c. Report test results, in writing, to ENGINEER on the same day that tests are made. Include in test reports the Project identification name and number, date, name of CONTRACTOR, name of concrete testing service, location of test core in the structure, type or class of concrete represented by core sample, nominal maximum size aggregate, design compressive strength, compression breaking strength and type of break (corrected for length-diameter ratio), direction of applied load to core with respect to horizontal plane of the concrete as placed, and the moisture condition of the core at time of testing.
 2. Fill core holes solid with non-shrink, high strength grout, and finish to match adjacent concrete surfaces.

3.6 MISCELLANEOUS CONCRETE ITEMS

- A. Filling-In: Fill-in holes and openings left in concrete structures for the passage of work by other contractors, unless otherwise shown or directed, after the work of other contractors is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide all other miscellaneous concrete filling shown or required to complete the Work.
- B. Equipment Bases:
1. Unless specifically shown otherwise, provide concrete bases for all equipment. Construct bases to the dimensions shown, or as required to meet manufacturers' requirements and drawing elevations. Where no specific elevations are shown, bases shall be 6-inches thick and extend 3-inches outside the metal equipment base or supports. Bases to have smooth trowel finish.
 2. Include all concrete equipment base work not specifically included under other Sections.
 3. In general, place bases up to 1-inch below the metal base. Properly shim equipment to grade and fill 1-inch void with non-shrink grout as specified in Section 03 60 03, Grout.
- C. Installation of embedded items
1. Install all embedded items prior to concrete placement, or, if necessary, as soon after concrete placement as possible, before concrete is set.
 2. Use temporary support and bracing to keep embedded items in place while concrete cures.
 3. Protect all embedded items from damage during concrete installation.

3.7 CONCRETE REPAIRS

- A. Repair of Formed surfaces:
1. Repair exposed-to-view formed concrete surfaces that contain defects which adversely affect the appearance of the finish. Surface defects that require repair include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets, and holes left by the rods and bolts; fins and other projections on the surface; and stains and other discolorations that cannot be removed by cleaning.
 2. Repair concealed formed concrete surfaces that may contain defects that adversely affect the durability of the concrete. Surface defects that require repair include cracks in excess of 0.01-inch wide, cracks of any width and other surface deficiencies which penetrate to the reinforcement or completely through non-reinforced sections, honeycomb, rock pockets, holes left by tie rods and bolts, and spalls except minor breakage at corner.
- B. Method of Repair of Formed Surfaces:
1. Repair and patch defective areas with cement mortar immediately after removal of forms and as directed by ENGINEER.
 2. Cut out honeycomb, rock pockets, voids over ½-inch diameter, and holes left by tie rods and bolts, down to solid concrete but, in no case, to a depth of less than 1-inch. Make edges of cuts perpendicular to the concrete surface. Before placing the cement mortar, thoroughly clean, dampen with water, and brush-coat the area to be patched with the specified bonding agent.
 - a. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that, when dry, the patching mortar color will match the color of the surrounding concrete. CONTRACTOR shall impart texture to repaired surfaces to match texture of existing adjacent surfaces. Provide test areas at inconspicuous locations to verify mixture, texture and color match before proceeding with the patching. Compact mortar in place and strike off slightly higher than the surrounding surface.
 3. Cracks which require repair shall be pressure grouted, epoxy injected, using one of the following. Apply in accordance with the manufacturer's directions and recommendations.
 - a. a. Sikadur 35, Hi-Mod L.V. and Sikadur 31, Hi-Mod Gel, as manufactured by Sika Corporation Company.
 - b. b. Euco Epoxy #452 Epoxy System, as manufactured by The Euclid Chemical Company.
 - c. c. Or approved equal.
 4. Fill holes extending through concrete by means of a plunger- type gun or other suitable device from the least exposed face, using a flush stop held at the exposed face to ensure completely filling.
 5. Sandblast exposed-to-view surfaces that require removal of stains, grout accumulations, sealing compounds, and other substances marring the surfaces. Use sand finer than No. 30 and air pressure from 15 to 25 psi.

END OF SECTION

SECTION 03 60 03

GROUT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes epoxy, non-metallic, non-shrink, and ordinary Portland cement-sand grouts.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 1. ASTM C33, Standard Specification for Concrete Aggregates.
 2. ASTM C150, Standard Specification for Portland Cement.
 3. ASTM C595, Standard Specification for Blended Hydraulic Cements.
 4. ASTM C1107, Standard Specification for Packaged Dry, Hydraulic-Cement Grout.

1.3 SYSTEM DESCRIPTION

- A. Furnish non-shrink, non-metallic grout for the following:
 1. Equipment bases.
 2. Base plates.
 3. Through-bolt and form tie openings.
 4. As shown in the Drawings.
- B. Furnish epoxy grout for the following:
 1. Equipment bases, sole plates with vibration, thermal movement, etc.
 2. Blockouts
 3. As shown in the Drawings.

1.4 SUBMITTALS

- A. Product Data:
 1. Manufacturer's specifications and installation instructions for all proprietary materials.
 2. Proposed method for keeping existing concrete surfaces wet prior to placing grout.
 3. Forming method for fluid grout placements.
 4. Curing method for grout.
- B. Laboratory Test Reports and Certificates:
 1. For proprietary materials, submit copies of reports on quality control tests.
 2. Submit certification that materials meet specification requirements for nonproprietary materials.
 3. For ordinary cement-sand grout, copies of grout mix design and laboratory strength test reports.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of Materials: Deliver grout materials from manufacturers in unopened containers and bearing intact manufacturer's labels.
- B. Storage of Materials: Store grout materials in a dry shelter and protected from moisture.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. High-Strength Epoxy Grout.
 - 1. Use 100% solids, prepackaged, solvent-free, moisture insensitive, high-strength epoxy grout.
 - 2. Product and Manufacturer: Provide one of the following:
 - a. E3-HP, as manufactured by The Euclid Chemical Company.
 - b. Sikadur 42 Grout Pak, as manufactured by Sika Corporation.
 - c. Five Star HP Epoxy Grout by Five Star Products, Incorporated.
 - d. Or approved equal.
- B. Non-shrink, Non-metallic Grout:
 - 1. Prepackaged non-staining cementitious grout which shall meet the minimum requirements of ASTM C1107 and requiring only the addition of water at the jobsite.
 - 2. Product and Manufacturer: Provide one of the following:
 - a. NS, as manufactured by The Euclid Chemical Company.
 - b. Five Star Grout, as manufactured by Five Star Products, Incorporated.
 - c. Sika Grout 212, as manufactured by Sika Corporation.
 - d. Or approved equal.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Examine the substrate and conditions under which grout is to be placed with installer and notify ENGINEER, in writing, of unsatisfactory conditions. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to ENGINEER.

3.2 INSTALLATION

- A. General:
 - 1. Mix, place and cure grout as shown and in accordance with manufacturer's instructions. If manufacturer's instructions conflict with the Specifications, do not proceed until ENGINEER provides clarification.
 - 2. Manufacturers of proprietary products shall make available upon 72 hours notification the services of a qualified, full time employee to aid in assuring

proper use of the product under job conditions. The cost of this service, if any, shall be borne by CONTRACTOR.

3. When placing grout conform to temperature and weather limitations in Section 03 30 03, Cast-In-Place Concrete.
 - B. Through-bolt and form-tie holes: Fill space with dry pack dense grout hammered in with steel tool and hammer.
 - C. Equipment Bases: Prepare concrete surface by sandblasting, chipping, or by mechanical means to remove any soft material prior to setting base plates and machinery. After shimming equipment indicated to be grouted on the plans to proper grade, securely tighten anchor bolts. Properly form around the base plates allowing sufficient room around the edges for placing the grout. Adequate depth between the bottom of the base plate and the top of concrete base must be provided to assure that the void is completely filled with grout.
 - D. Curing: Cure all grout in accordance with manufacturer's written instructions. Wet cure non-shrink non-metallic grout for a minimum of three (3) days unless directed otherwise by the ENGINEER.

END OF SECTION

SECTION 05 05 03

MISCELLANEOUS METALS

PART 1 - GENERAL

1.1 SUMMARY

- A. Work necessary to furnish and install, complete, fabricated metalwork and castings as shown or as required to secure various parts together and provide a complete installation.

1.2 SUBMITTALS

- A. Shop Drawings: Submit shop drawings for the fabrication and erection of the miscellaneous metal Work. Include plans, elevations and details of sections and connections. Clearly show all field connections. Show anchorage and accessory items.
- B. Product Data: Submit copies of manufacturer's specifications, load tables, dimensions, diagrams, anchor details, and installation instructions for manufactured products.
- C. Samples: Submit representative samples of manufactured products.

1.3 QUALITY ASSURANCE

- A. Field Measurements: Take field measurements prior to preparation of Shop Drawings and fabrication to ensure proper fitting of the Work.
- B. Shop Assembly: Preassemble items in the shop to the greatest extent possible, so as to minimize field splicing and assembly of units at the project site. Disassemble units to the extent necessary for shipping limitations. Clearly mark units for reassembly and coordinated installation.
- C. Qualifications: Qualify welding operators in accordance with requirements of current AWS Standard Performance Qualification Procedures in the applicable structural welding code.
 - 1. Qualification Tests: Performed by a recognized testing laboratory.
- D. Certification: Certify welders of structural and reinforcing steel for all positions of welding in accordance with such procedure.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Like Items of Materials: Provide end products of one manufacturer in order to achieve standardization for appearance, operation, maintenance, replacement, and manufacturer's service.
- B. Lifting Lugs: Provide on equipment and equipment components weighing over 100 pounds.
- C. Furnish miscellaneous items:

1. Miscellaneous metalwork and castings as shown, or as required to secure various parts together and provide a complete installation.
2. Items specified herein are not intended to be all-inclusive. Provide metalwork and castings shown, specified, or which can reasonably be inferred as necessary to complete the project.

2.2 MATERIALS

- A. Carbon steel structural shapes:
 1. Wide flange sections: ASTM A992 Grade 50.
 2. Steel pipe columns: ASTM A53 Grade B.
 3. Hollow Structural Sections (HSS): ASTM A500 Grade B.
 4. Plates, Angles, Channels, and S Shapes: ASTM A36.
- B. Stainless Steel:
 1. Plates and Sheets: ASTM A240, Type 304L or 316
 2. Structural shapes: ASTM A276, A479 or A1069, Type 304L or 316.
 3. Fasteners and fittings: ASTM A320, Type 316
 - a. Where stainless steel bolts are in contact with dissimilar metals provide insulating sleeves and phenolic washers to electrically isolate the bolts and nuts.
- C. Aluminum, Structural Shapes and Plates: Alloy 6061-T6, meeting Aluminum Assoc. Specification for Aluminum Structures
- D. Cast Iron: A48, Class 30
- E. Light Gauge Steel Framing:
 1. Manufactured by SSMA ICC ESR-3064P, or equivalent, to meet the requirements of AISI S100.
 2. ASTM A570 or A446 with a minimum yield strength of 33 ksi for 18 gauge and 20 gauge, 50 ksi for 14 gauge and 16 gauge.
 3. Framing members shall have the section properties as listed on the Drawings.
- F. High-Strength Threaded Fasteners: Heavy hexagonal structural bolts, heavy hexagon nuts, and hardened washers, as follows:
 1. Quenched and tempered medium carbon steel bolts, nuts and washers, complying with ASTM A325 or:
 2. Quenched and tempered alloy steel bolts, nuts and washers, complying with ASTM A490.
 3. Provide two ASTM F436 washers for all bolts.
 4. Provide beveled washers at connections of sloped/tapered sections.
 5. Unless noted otherwise, high-strength fasteners shall be used for all non-stainless steel fasteners.
- G. Cast-in-Place Anchor Rods:
 1. ASTM F1554, Grade 36 with weldability supplement S1, galvanized, unless shown otherwise.
 2. Provide ASTM F436 washers at all nuts unless shown otherwise.
 3. Provide anchor bolt sleeves as required or as shown for location adjustment.
 4. Provide stainless steel anchors where shown on the Drawings or listed in another specific specification section.
- H. Galvanizing:

1. Zinc coated hardware: ASTM A153.
 2. Fabrications: ASTM A123.
 3. Members designated as galvanized on the drawings or as directed by ENGINEER shall be galvanized after fabrication in accordance with ASTM A385. Weight of zinc coating shall not be less than 2.5 ounces per square foot of actual surface and have a coating thickness of 0.0042 inch. Coating weight will be subject to verification by ENGINEER. Thickness of coating will be measured by means of a magnetic thickness gauge.
 4. Each fabricated assembly shall be totally immersed in the galvanizing bath. The galvanizing procedure shall be such as to avoid distortion of the assembly. Straightening of members after galvanizing will not be permitted. Assemblies shall be held in the galvanizing bath until the temperature of the assembly is equal to the temperature of the bath. All deviations shall require approval by ENGINEER.
 5. Any galvanized surface which has the coating removed for any cause shall be touched up with a zinc-rich cold galvanizing compound so that the entire surface has a uniform coating of 2.5 ounces of zinc per square foot.
 6. Galvanized work shall be subject to inspection by ENGINEER at any time to ensure strict compliance with this specification. Any areas found to show defects or signs of improper galvanizing application will be rejected. Repairs shall be made by CONTRACTOR without additional cost to OWNER.
- I. Surface preparation and Finish:
1. Steel: Where not indicated to be galvanized, steel shall be primed in the shop. Comply with Section 09 91 03, Painting.

2.3 ANCHOR BOLT SLEEVE

- A. High Density Polyethylene Plastic:
1. Single unit construction with deformed sidewalls such that the concrete and grout lock in place.
 2. The top of the sleeve shall be self-threading to provide adjustment of the threaded anchor bolt projection.
 3. Material requirements shall conform to the following:
 - a. Plastic: High density polyethylene.
 - b. Density: 0.956, ASTM D1505.
 - c. Vicant Softening Point: 256°F, ASTM D1525
 - d. Brittleness Temperature: -180°F, ASTM D746
- B. Fabricated Steel Sleeve:
1. Material: A36 steel.
 2. Dimensions, welding, and sizes as shown.

2.4 FABRICATIONS

- A. Miscellaneous Framings and Supports:
1. Fabricate units to the sizes, shapes, and profiles shown, or if not shown, of the required dimensions to receive the adjacent gratings, plates, tanks, doors, or other work to be retained by the framing.

2. Except as otherwise shown, fabricate from structural shapes, plates, and bars of compatible material, all-welded construction, using mitered corners, welded brackets and splice plates, and a minimum number of joints for field connection. Cut, drill, and tap units to receive hardware and other items to be anchored to the work.
 3. Equipment units with integrally welded anchors for casting into concrete or integrating into masonry. Furnish inserts for casting in, if units must be installed after concrete or grout is placed. Anchor spacing shall be 24" on-center, unless otherwise shown.
 4. Galvanize where shown.
- B. Miscellaneous Fabricated Metals:
1. The following additional items are listed as a guide. Some items on list may not be required, and list may not be all-inclusive. Submittal data for materials and products must be approved before they are incorporated in the work.
 - a. Access Walkway
 - b. Float Switch Supports
 - c. Lifting Eyes.
 - d. Pipe Supports.
 - e. Steel Bases and Anchors.
- C. Stainless Steel Fabrication: Following welding fabrication all stainless steel assemblies shall be cleaned, descaled and passivated in accordance with ASTM A380.
- D. Anchors, Fasteners, and Fittings: Provide zinc-coated carbon steel for steel fabrications, and stainless steel for aluminum and stainless steel fabrications, unless shown otherwise.

PART 3 – EXECUTION

3.1 FABRICATION

- A. General:
1. Exposed Surfaces Finish: Smooth, sharp, well-defined lines.
 2. Provide necessary rabbets, lugs, and brackets so work can be assembled in neat, substantial manner.
 3. Conceal fastenings where practical.
 4. Drill metalwork and countersink holes as required for attaching hardware or other materials.
 5. Fabricate materials as specified.
 6. Weld connections, except where bolting is directed.
 7. Methods of fabrication not otherwise specified or shown shall be adequate for stress and as approved.
 8. Grind exposed edges of welds smooth on walkways, guardrails, handrails, stairways, channel door frames, steel column bases and where shown.
 9. Round sharp edges to 1/8-inch minimum radius. Grind burrs, jagged edges, and surface defects smooth.
- B. Aluminum:

1. Fabricate as shown, and in accordance with the Aluminum Association Standards and manufacturer's recommendations as approved.
2. Grind smooth sheared edges exposed in finished work.

3.2 WELDING

A. General

1. Meet codes for Arc and Gas Welding in Building Construction of the AWS and AISC for techniques of welding employed, appearance, quality of welds made, and the methods of correcting defective work.
2. Welding Surfaces: Free from loose scale, rust, grease, paint, and other foreign material, except mill scale which will withstand vigorous wire brushing may remain.
3. A light film of linseed oil may likewise be disregarded.
4. Do not weld when temperature of base metal is lower than zero degrees F.
5. Finished members shall be true to line and free from twists.
6. Prepare welds and adjacent areas such that there is:
 - a. No undercutting or reverse ridges on the weld bead.
 - b. No weld spatter on or adjacent to the weld or any other area to be painted.
 - c. No sharp peaks or ridges along the weld bead.
7. Grind embedded pieces of electrode or wire flush with adjacent surface of weld bead.

B. Welding Operators: As specified in PART 1, Article 1.3 QUALITY ASSURANCE.

3.3 INSTALLATION

- A. Set units accurately in location, alignment, and elevation, level, plumb, true, and square, measured from established lines and levels. Brace or anchor temporarily in formwork where units are to be built into concrete, masonry, or similar construction.
- B. Anchor securely as shown or as required for the intended use, using concealed anchors wherever possible.
- C. Fit exposed edges accurately together to form tight, hairline joints. Do not weld, cut, or abrade the surfaces of galvanized or anodized units which are intended for bolted or screwed connections.
- D. Field Welding: Where field welding is necessary, grind joints smooth and touch-up the shop paint. Comply with the applicable provisions of AWS D1.1 for the procedures of manual shielded metal-arc welding, the appearance and quality of welds made, and the methods used in correcting welding.
- E. Field Coat all miscellaneous ferrous and steel metals per Specification Section 09 91 03 - Painting, System 300.
- F. Where aluminum is in contact with dissimilar metals, or embedded in masonry or concrete, protect surfaces as specified in Section 09 91 03 - Painting, System 305.

END OF SECTION

SECTION 05 05 06

ANCHORS, INSERTS, AND DOWELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes all post-installed anchors and inserts required to anchor parts of the Work to supporting concrete or masonry construction, and plaster. This Section also includes adhesives for anchoring reinforcing dowels into existing concrete.

1.2 REFERENCES

- A. American Society for Testing and Materials
 1. ASTM A36, Standard Specification for Carbon Structural Steel.
 2. ASTM A320, Standard Specification for Alloy-Steel and Stainless Steel Bolting for Low-Temperature Service.
 3. ASTM D746, Standard Test Method for Brittleness of Temperature of Plastics and Elastomers by Impact.
 4. ASTM D1505, Standard Test Method for Density of Plastics by the Density-Gradient Technique.
 5. ASTM D1525, Standard Test Method for Vicat Softening Temperature of Plastics.
- B. 2018 International Building Code (IBC).
- C. American Concrete Institute (ACI)
 1. ACI 355.2, Qualification of Post-Installed Mechanical Anchors in Concrete.
 2. ACI 355.4, Qualification of Post-installed Adhesive Anchors in Concrete.

1.3 SYSTEM DESCRIPTION

- A. Provide the size, type, and length of anchor shown on the drawings or, if not shown, as specified in the detailed sections of these specifications.
- B. When the size, length or load carrying capacity of an anchor bolt, expansion anchor, toggle bolt, or concrete insert is not shown or specified, provide the size, length and capacity required to carry the design load times a minimum safety factor of 4.
- C. For equipment anchors, if the design load is not specified by the manufacturer, provide anchors of diameter no less than the diameter of the hole minus 3/16 inch.

1.4 SUBMITTALS

- A. Product Data: Submit for approval copies of material certification, manufacturer's specifications, load tables, dimension diagrams and installation instructions for the devices.
- B. Installer's Qualifications: When installing adhesive anchors subject to sustained tension loading or when specifically noted in the Drawings, submit for approval copies of the installer's qualifications certified by the ACI/CRSI Adhesive Anchor Installer Certification program.

1.5 QUALITY ASSURANCE

- A. Post-installed concrete anchors shall be ICC approved for seismic applications in cracked concrete and prequalified in accordance with ACI 355.2 or ACI 355.4.

PART 2 - PRODUCTS

2.1 ANCHOR BOLTS

- A. Nonsubmerged Use in areas of wet use, washdown areas, or areas outside heated buildings:
 - 1. Stainless steel Type 316, unless otherwise shown.
 - 2. Diameter, Length and Bend Dimensions: As required by equipment or machinery manufacturer. Unless otherwise required, provide 3/4-inch minimum diameter by 12-inches long and other geometry as shown.
 - 3. Furnish A320 nuts and washers of same material for each bolt, unless otherwise shown.
 - 4. Provide sleeves as required or as shown for location adjustment.
- B. For anchoring fabricated metalwork, structural steel, or other components where connections will be protected or dry:
 - 1. Galvanized Steel, 36 ksi, minimum.
 - 2. Minimum Size: 3/4-inch diameter by 12-inch long, unless otherwise shown.
 - 3. At base plates with grout pads, furnish two nuts and two washers per bolt of same material as bolt, unless otherwise shown.

2.2 ANCHOR BOLT SLEEVE

- A. High Density Polyethylene Plastic:
 - 1. Single unit construction with deformed sidewalls such that the concrete and grout lock in place.
 - 2. The top of the sleeve shall be self-threading to provide adjustment of the threaded anchor bolt projection.
 - 3. Material requirements shall conform to the following:
 - a. Plastic: High density polyethylene.
 - b. Density: 0.956, ASTM D1505.
 - c. Vicant Softening Point: 256°F, ASTM D1525.
 - d. Brittleness Temperature: -180°F, ASTM D746.
- B. Fabricated Steel Sleeve:
 - 1. Material: A36 steel.
 - 2. Dimensions, welding, and sizes as shown.

2.3 STAINLESS STEEL FASTENERS LUBRICANT (ANTISEIZING)

- A. Provide for stainless steel nuts and machined bolts, anchor bolts, concrete anchors, and all other threaded fasteners.
- B. Lubricant shall contain substantial amounts of molybdenum disulfide, graphite, mica, talc, or copper.

2.4 CONCRETE INSERTS

- A. For vertical support of grating or floor plate, provide cast-in metal fabrications as shown.
- B. Except as permitted below, or as otherwise shown, provide malleable iron inserts for hanging piping and conduit from concrete ceilings and soffits.
- C. Obtain inserts in sufficient time so as not to delay concrete or masonry work.

2.5 ADHESIVE (EPOXY) ANCHORS AND DOWELS

- A. Provide adhesive anchors where specifically shown and where adhesive anchors are allowed.
- B. Adhesive shall be epoxy resin. Vinylester resin anchors are NOT allowed.
- C. Product and Manufacturer: Provide one of the following:
 - 1. Installation to Concrete:
 - a. HIT-HY 200 as manufactured by Hilti, Inc.
 - b. SET-3G as manufactured by Simpson Strong-Tie, Inc.
 - c. Or approved equal meeting ACI 355.4.
 - 2. Installation to solid-grouted Masonry:
 - a. HIT-HY 270 as manufactured by Hilti, Inc.
 - b. SET as manufactured by Simpson Strong-Tie, Inc.
 - c. Or approved equal.

2.6 EXPANSION ANCHORS

- A. Provide expansion anchors only where specifically shown and where expansion anchors are allowed.
- B. Expansion anchors are NOT allowed in any submerged or chemical containment areas.
- C. Leveling nuts shall not be used with expansion anchors.
- D. Wedge anchors: Provide one of the following:
 - 1. Installation to Concrete:
 - a. Hilti Kwik Bolt TZ by Hilti, Inc.
 - b. Strong-Bolt 2 by Simpson Strong-Tie, Inc.
 - c. Or approved equal meeting ACI 355.2.
 - 2. Installation to solid-grouted Masonry:
 - a. Hilti Kwik Bolt-3 by Hilti, Inc.
 - b. Wedge-All by Simpson Strong-Tie, Inc.
 - c. Or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION OF ANCHORS

- A. Obtain anchor bolts in sufficient time so as not to delay concrete or masonry work.
- B. Adhesives shall be stored and installed at the service temperature ranges recommended by the manufacturer.
- C. Locate and accurately set the anchor bolts using templates or other devices as necessary.

- D. Protect threads and shank from damage during installation of equipment and structural steel.
- E. Post-installed anchors are NOT acceptable substitutes for cast-in-place anchor bolts.
- F. Assure that embedded items are protected from damage and are not filled in with concrete.
- G. Unless otherwise shown, the minimum diameter of anchor bolts for structural steel is 3/4 inch, and for other applications, 3/8 inch.
- H. Unless otherwise shown, provide the following minimum embedment, where 'd' is the nominal anchor diameter:
 - 1. Cast-in-place anchors: 12d.
 - 2. Adhesive anchors: 12d.
 - 3. Expansion anchors: 8d.
- I. Unless otherwise shown, provide a minimum edge distance equal to six times the bolt diameter for adhesive anchors, eight times the bolt diameter for expansion anchors and a bolt spacing equal to twelve times the bolt diameter.
- J. Concrete shall have a minimum age of 21 days at the time of post-installed anchor installation.
- K. Existing reinforcing bars in the concrete structure may conflict with specific anchor locations. The CONTRACTOR shall review the existing structural drawings and shall undertake to locate the position of the reinforcing bars.
- L. Drilling equipment used and installation of post-installed anchors shall be in accordance with the manufacturer's printed instructions.
- M. For the adhesive and expansion anchors, CONTRACTOR shall comply with the manufacturer's printed installation instructions on the drilled hole diameter and depth.
- N. CONTRACTOR shall properly clean out the hole utilizing a wire brush and compressed air in accordance with the manufacturer's printed installation instructions.

3.2 FIELD QUALITY CONTROL

- A. Anchors shall be installed by qualified personnel in accordance with the manufacturer's printed installation instructions.
- B. Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by the ACI/CRSI Adhesive Anchor Installer Certification program.
- C. CONTRACTOR shall employ a special inspector to perform field inspection services in accordance with Chapter 17 of the IBC for all post-installed anchors.
- D. CONTRACTOR shall employ a testing laboratory to perform field quality testing of installed adhesive anchors. A minimum of 10% of randomly selected adhesive anchors are to be tension tested.
- E. CONTRACTOR shall correct improper workmanship, remove and replace, or correct as instructed by the ENGINEER, all anchors or bars found unacceptable or deficient.

END OF SECTION

SECTION 09 90 00

PAINTING AND COATING

PART 1 - GENERAL

1.01 WORK INCLUDED

The work to be done consists of furnishing all labor, materials, tools, equipment, scaffolding, and all other necessary equipment and supplies for doing all the work involved in applying paint to buildings and miscellaneous structures (except pavement markings and street signs), as shown on the plans and as specified in these specifications, and as directed by the Engineer.

1.02 RELATED REQUIREMENTS

Not used.

1.03 REFERENCE STANDARDS

Not used.

1.04 QUALITY ASSURANCE

Paints shall be applied in accordance with manufacturer's printed directions.

1.05 MEASUREMENT AND PAYMENT

- A) Cleaning and painting shall be paid for on a Lump Sum price, unless otherwise specified in the Special Provisions. The Lump Sum price paid for shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in the cleaning and painting of the work, as shown on the plans and as specified in these specifications and Special Provisions, and as directed by the Engineer.
- B) Where no separate payment is specified, costs for all work and materials specified herein shall be included in bid items requiring painting.

1.06 STORAGE OF MATERIALS

Paints shall be stored in a protected area with temperatures between forty degrees and one hundred degrees Fahrenheit (40°F-100°F). Materials shall not be used if storage conditions or minimum shelf life have been exceeded.

1.07 SUBMITTALS

- A) Before ordering materials, the Contractor shall submit two (2) samples of each material, including color charts, to be used for approval of the Engineer.
- B) The Contractor shall provide the City with Manufacturer's warranty on the product, and a certificate of compliance with the applicable ASTM or Federal Standards, where containers do not show such information.

PART 2 – PRODUCTS

2.01 PAINT FOR BUILDINGS AND APPURTENANCES

- A) Paint for buildings and miscellaneous appurtenances shall be products of Dunn-Edwards, or comparable quality products of Glidden-Durkee, Sherwin Williams,

Sinclair, Kelly-Moore, or approved equal. (The products listed below are Dunn-Edwards.)

- B) Exterior
 - a. Stucco, Concrete and Masonry:
 - i. Patching - Custom Patch
 - ii. Primer - W 709 Eff-Stop
 - iii. Second and Third Coats - W 701 Evershield
 - b. Wood:
 - i. Patching - Custom Patch
 - ii. Primer - 42-1 Compo
 - iii. Second and Third Coats - W 701 Evershield
 - c. Metal doors, gutters, flashing, rails, and metal trims:
 - i. Primer - QD 43-7 Galv-Alum
 - ii. Second and Third Coats - QD 2 Aristolite
 - d. Other ferrous, galvanized, and aluminum surfaces:
 - i. Primer - Van Prime W 711
 - ii. Second and Third Coats - W 701 Evershield
- C) Interior
 - a. Stucco, concrete, and masonry:
 - i. Crack Filler - Eternaflex Neoprene Sealing Compound
 - ii. Primer - W 101 Vinyl
 - iii. Second and Third Coats - W 450 Decoglo
 - b. Gypsum Drywall:
 - i. Crack Filler - Eternaflex Neoprene Sealing Compound
 - ii. Primer - W 101 Vinylastic
 - iii. Second and Third Coats - W 450 Decoglo
 - c. Wood (Painted Finish):
 - i. Crack Filler - Eternaflex Neoprene Sealing Compound
 - ii. Primer - W 707 Unikote
 - iii. Second and Third Coats - W 450 Decoglo
 - d. Wood (Varnish Finish):
 - i. First Coat - V 108 Stain
 - ii. Second Coat - V 106A Sanding Sealer
 - iii. Third Coat - V 198 Flat Varnish, or V 199 Pale Satin Varnish, or V 197 Pale Gloss Varnish
 - e. Wood (Lacquer Finish):
 - i. First Coat - LW 120 Deco
 - ii. Second Coat - ELQ 101 Sanding Sealer
 - iii. Third and Fourth Coats - ELQ 104 Semi-Gloss Lacquer

PART 3 – EXECUTION

3.01 SURFACE PREPARATION

- A) All surfaces to be painted shall be cleaned free of loose dirt and dust. All loose, chalking or scaling paint shall be removed by sanding, wire brushing, or scraping. Holes, cracks, and damaged spots shall be patched, filled, finish flush to adjoining surfaces.
- B) All surfaces shall be sterilized before repainting to remove mildew. These surfaces shall be cleaned by high pressure water washing with the following solution:

- a. Tri-sodium Phosphate ("TSP") = 2/3 cup
 - b. Household Bleach ("Clorox") = 1 quart
 - c. Powdered Detergent = 1/3 cup
 - d. Add warm water to make one (1) Gallon
- C) Rinse surface applied with solution and allow to dry completely.
 - D) All sterilizing solution wash water and rinse water shall be contained for disposal into the sanitary sewer system and must not be allowed to enter City storm drains.
 - E) Wood surfaces shall be uniformly abraded by hand or power sanding and shall be roughened sufficiently to ensure a good bond with the base surface.
 - F) Metal surfaces shall be uniformly abraded by hand or power sanding or by sandblasting. Power impact tools shall remove stratified rust. Loose mill scale, loose rust, and loose paint shall be removed by power wire brushing, power grinding, or sandblasting. Remove all dust and loose matter from the surface by vacuuming. Blast cleaning shall conform to Section 59-2.03, "Blast Cleaning," of the State Specifications. Newly cleaned surfaces shall be prime-coated the same day. All blast material removed shall be properly collected and disposed as solid waste.
 - G) New concrete surfaces shall cure at least thirty (30) calendar days and have a moisture content below eight percent (8%) prior to coating. Concrete surface shall be cleaned by abrasive "brush-off" blast or etched with ten percent (10%) hydrochloric acid. Acid solution shall be applied at the rate of one and one-half (1-1/2) pints per Square Yard to obtain a total wetting of the substrate, and thoroughly worked into the surface by stiff bristled brushes until the bubbling reaction has subsided. Thoroughly wash and scrub etched surfaces by high-pressure water hosing to remove all salts and loose particles. Wash water shall be collected, then neutralized to a pH value between 5 and 9, and then disposed of, in the sanitary sewer system. Wash water shall not be allowed to flow into the City storm drain system.
 - H) Previously painted concrete surfaces or old unpainted concrete surfaces shall be stiff-brush cleaned and sterilized with a solution as described in Paragraph 28-3.01 B. Rinse surface and allow to dry completely. Sterilizing solution and rinse shall be contained for disposal into the sanitary sewer system and must not be allowed to enter the City storm drain system.
 - I) Remove all hardware and accessories not to be painted, or provide surface protection. Following completion of painting of each area, reinstall all removed items, by workers skilled in the trades involved.
 - J) All stucco and concrete blocks shall be water-blasted to remove dust and dirt.
 - K) Fill hairline cracks, small holes, and imperfections on plaster surfaces with patching plaster. Smooth off to match adjacent surfaces. Wash and neutralize high-alkali surfaces where they occur.

3.02 APPLICATION

- A) Paint shall be applied only on thoroughly dry surfaces during periods of favorable weather. Painting will not be permitted in rainy, damp, misty, or frosty weather, or then the temperature is below thirty-five degrees Fahrenheit (35°F) or when the relative humidity exceeds eighty five percent (85%) at the job site. Exterior blast cleaning or spray painting of solvent-borne paint will not be permitted when the wind velocity is more than fifteen miles per hour (15 mph).
- B) Paint shall be applied by brush, spray, roller, or any combination of these methods.

- C) No coating shall be applied during rain or fog, during periods of high humidity, when condensation of the cleaned surface could occur, or when conditions are present that could create the adherence of dust, debris, or insects to freshly painted surfaces.
- D) Surfaces shall be primed the same day that the blast cleaning is done.
- E) Each application of paint shall be thoroughly cured and subject to inspection with holiday detector. Any skips, holidays, thin areas or other deficiencies shall be corrected before the succeeding application. The surface of the paint being covered shall be free from moisture, dust, grease, or deleterious material, which would prevent the bond of succeeding applications.
- F) Each coating shall be checked for the desired dry film thickness where thickness is indicated. Use a "Mikrotest" on ferro-magnetic substrates, and an "Elcometer" on non-ferrous metallic substrates. Work that does not meet the required dry film thickness, or which is uneven or blotchy, shall be recoated at the Contractor's expense, as directed by the Engineer.
- G) First finish coat shall be of a different shade from second finish coat in order to evaluate and observe application of the second finish coat. The Contractor shall leave two (2) gallons of unopened finish coats of each color for touch-up.

3.03 CLEANUP

- A) The Contractor shall remove all dropped and splattered paint and other stains and blemishes resulting from his operations. If such stains or blemishes cannot be satisfactorily removed from surfaces painted by the Contractor, or from existing finished surfaces, such surfaces shall be repainted or refinished at Contractor's expense in such manner that it shall match satisfactorily with the adjacent existing surfaces, and in a manner satisfactory to the Engineer.
- B) The Contractor shall dispose of all latex paint wash water into the sanitary sewer. Oil based paint waste shall be properly disposed of as hazardous waste.

-END OF SECTION-

SECTION 31 23 33

TRENCH EXCAVATION AND BACKFILL

PART 1 – GENERAL

1.01 WORK INCLUDED

- A. It is the general intent of these specifications to specify conduct of the work in such manner as to cause the general public a minimum of inconvenience, with no exposure to unsafe conditions during construction, and to provide a trench that will properly support and protect the pipe and have no settlement on improved streets and only minor settlement in other areas where such settlement will not be noticed, or compensation made for any expected settlement. The degree of compaction and type of material will vary in accordance with type of pipe and soil and surface conditions.
- B. Excavation of all earth, regardless of character and subsurface conditions, to the required lines and grade as shown on the plans for the installation of the subsurface pipelines, utilities, conduits, etc.
- C. Shoring designed for general safety, worker protection, and protection of adjacent property from the hazards of caving ground shall be required for:
 - 1. Trench excavations
 - 2. Structural excavations
- D. Control of ground water.
- E. Backfill from the required pipe cover depth to subgrade.
- F. Compaction as shown on the plans and as specified herein.

1.02 RELATED REQUIREMENTS

- A. City Standard Detail Drawing for Trenching and Backfill.

1.03 REFERENCE STANDARDS

- A. 2010 State of California Department of Transportation
Standard Specifications (SS)
Section 26 Aggregate Bases

1.04 QUALITY ASSURANCE

- A. All work under this section will be subject to the inspection and approval of both the Engineer and an approved geotechnical engineer registered in California. Compaction testing either shall be performed by the geotechnical engineer or by a City approved independent testing laboratory under the supervision of a California registered geotechnical engineer.

- B. The geotechnical engineer shall make enough visits to the site to insure ongoing familiarity with the progress and quality of the work. The geotechnical engineer shall make a sufficient number of field observations and tests to allow the forming of an opinion regarding the adequacy of the site preparation, the acceptability of the import fill material, and the extent to which the degree of compaction meets the specification requirements and the project needs.
- C. Any fill where the site preparation, type of material, or compaction is not approved by the geotechnical engineer, shall be removed and/or re-compacted until the requirements are satisfied and approved by said geotechnical engineer. As required, fill material shall be tested for pollutants and certified for suitability by the geotechnical engineer.
- D. The geotechnical engineer and/or testing laboratory shall be retained by, and paid for by the Contractor.
- E. The geotechnical engineer shall provide quality assurance reports as required and accepted by the Engineer.

1.06 PERMIT

For trenches or excavations five feet (5') deep or deeper, the Contractor shall obtain a permit for such excavation from the State Department of Industrial Relations, Division of Safety and Health (DOSH). The Contractor shall submit a copy of the permit to the Engineer prior to initiating any work requiring said permit.

1.07 ENGINEER'S REVIEW

- A. The duty of the Engineer to conduct construction review of the Contractor's performance is not intended to include a review or approval of the adequacy of the Contractor's safety supervisor, the safety program, or any safety measures taken in, on, or near the construction site.
- B. The Engineer will review the submittal of the Contractor's proposed shoring system to verify the general scope of the work, to determine that qualified professional engineering services are used and to determine that appropriate construction techniques are proposed for use. This review shall not, in any way, be construed to relieve the Contractor from sole responsibility for the design and safety of such shoring.

1.08 GUARANTEES

The Contractor shall guaranty his work against settlement for a minimum period of one (1) year after the Notice of Completion has been filed, and shall repair all damage caused by settlement within that time. For the purpose of these specifications, settlement will be deemed to have occurred if either of the following conditions exist:

- 1. A depression of three-eighths of an inch (3/8") below the average of the sides of the uncut portion.

PART 2 – PRODUCTS

2.01 BACKFILL REQUIREMENTS – GENERAL

A. Crushed Rock.

1. Manufactured, angular, crushed stone with a minimum san equivalent value of 75.
2. Clean, hard, sound, durable, uniform in quality, and free of soft, liable, thin, elongated or laminated pieces, and disintegrated material.
3. Have 100 percent of its particles with at least one fractured face on a weight basis, when tested for crushed particles per ASTM D 5821.
4. Comply with the grading shown in the following table:

SIEVE SIZE	PERCENT PASSING
1" (25 mm)	100
3/4" (19 mm)	95-100
1/2" (12.5 mm)	30-60
3/8" (9.5 mm)	0-20
No. 4 (4.75 mm)	0-5
No. 8 (2.36 mm)	-

2.02 PIPE BEDDING AND BACKFILL FOR SEWER AND STORM MAINS

- A. Pipe bedding and backfill for Sewer and Storm mains shall be placed in accordance with City Standard Drawing **ST-06A "Trench Construction for Sewer or Storm Mains"**. Unless otherwise specified, pipe bedding and initial backfill for gravity sewer, force main, and storm mains shall be 3/4" drain rock with the following gradation:

SIEVE SIZE	PERCENT PASSING
1" (25 mm)	100
3/4" (19 mm)	85-100
1/2" (12.5 mm)	10-50
3/8" (9.5 mm)	5-20

No. 4 (4.75 mm)	<3
No. 8 (2.36 mm)	<2
No. 30 (0.60 mm)	<2
No. 100 (0.15 mm)	<2

2.03 PIPE BEDDING AND BACKFILL FOR WATER MAINS

- A. Pipe bedding and backfill for Water mains shall be placed in accordance with City Standard Drawing ST-06B “Trench Construction for Water Mains”.
- B. Unless otherwise specified, pipe bedding and initial backfill for Water system ductile iron pipes shall be clean graded, imported sand with a minimum 95% dry-in-place density, as determined by ASTM D-1557.
- C. Sand shall be tested and must have a pH equal to or greater than 4.5 and less than 9, and a resistivity greater than 5,000 ohm-centimeters.
- D. The sand shall conform to the following grading when tested in accordance with ASTM C 136, “Method for Sieve Analysis of Fine and Course Aggregates”:

SIEVE SIZE	PERCENT PASSING
1/2”	100
#4	75 - 100
#50	0 - 70
#100	0 - 30
#200	0 -15

2.04 PIPE BEDDING AND BACKFILL FOR ELECTRIC CABLE, ELECTRIC CONDUIT, AND GAS PIPE

- A. Pipe bedding and backfill for electric cable, electric conduit, and gas pipe shall be imported sand with a minimum 95% dry-in-place density, as determined by ASTM D-1557.
- B. Backfill materials, standards, specifications, and testing shall be in accordance with **Pacific Gas and Electric Company (PG&E), Engineering Material Specification No. 4123-BACKFILL SAND dated August 30, 2012** (Copy attached as Appendix 1 to this section).

2.05 SUBSEQUENT BACKFILL

- A. The Contractor shall backfill with imported Class 2 Aggregate Base materials, as required and authorized. Aggregate Materials, standards, specifications, and testing shall be in accordance with State Standard Specifications (SS) Section 26- Aggregate Bases. The grading of the material shall conform to the $\frac{3}{4}$ inch, maximum, specified in SS Section 26-1.02B, "Class 2 Aggregate Base"
- B. Recycled Aggregate Base manufactured from recycled materials is acceptable provided that it meets the requirements and specifications of virgin Aggregate Base.

2.06 OTHER BACKFILL MATERIALS

Cement slurry, drain rock and other special earth-rock backfill materials shall be provided as specified in the Special Provisions, or directed and authorized.

PART 3 – EXECUTION

3.01 GENERAL

- A. Unless otherwise indicated on the plans or in the special conditions, excavation shall be by open cut. Trenching machines may be used, except where their use will result in damage to existing facilities.
- B. All pipe materials and accessories shall be on site prior to excavation. Unless otherwise specifically approved by the Engineer, the length of open trench shall not exceed one hundred feet (100') ahead of pipe laying, and no more than twenty-five feet (25') of excavated trench shall remain un-backfilled at end of day. Excavations in public streets shall be coordinated so as to minimize traffic interference.
- C. Trenching in paved areas shall be saw cut or scored and broken ahead of trenching operations, and shall be cut or trimmed to a neat edge after backfilling. Any pavement damaged outside of the cuts shall be saw cut and restored prior to final paving.
- D. Except with specific approval of the Engineer, no more than one hundred feet (100') of open trench shall be excavated in advance of laying the pipe. Not more than twenty-five feet (25') of excavated trench shall remain un-backfilled at the end of each day's work. The remainder of the trench shall be backfilled, initially compacted, and opened to traffic. All operations shall be carried out in an orderly fashion. Backfilling, compacting and cleanup shall be accomplished as sections of the pipe are installed. Traffic through the work area shall not be impeded or obstructed at any time.
- E. Trenches shall be excavated at least six inches (6") below the barrel of the pipe and the bottom re-filled with select imported material of the type specified. See applicable City Standard Drawings, for details of trench construction.
- F. Excavation shall be supported as set forth in the rules, orders, and regulations of the California Department of Industrial Relations, Division of Industrial

- Accidents. All shoring, sheeting, and bracing shall conform to the requirements of the State or local agents having jurisdiction over such matters. Shoring, sheeting, and bracing shall be removed in a manner that will protect the workers and prevent caving of banks and damage to the pipe, excavation, backfill or adjacent property. No sheeting will be withdrawn from below the top of the pipe after completion of backfill to that level.
- G. Trenches must be kept free from water while the pipe or structures are being installed, concrete is setting, and until backfill has progressed to a sufficient height to anchor the work against possible flotation or leakage.
 - H. The Contractor shall do all excavation of whatever substance is encountered to the lines and grades shown on the plans. All material suitable for use as backfill shall be piled in an orderly manner at a sufficient distance from the edge of the trench to avoid overloading and to prevent sliding into the trench. The Contractor shall do such grading or work as is necessary to prevent surface water from entering the excavation. Storage of equipment or material on street right of way shall not be allowed after normal working hours.
 - I. Shoring shall be removed only during backfill operations, and shall be done without moving the surrounding ground, piping or structure. Shoring can be left in place with the approval of the Engineer. Un-backfilled portions of trench shall be shored and covered each evening with steel trench plates, properly shimmed, steel spiked and ramped with temporary asphalt (cutback), and with traffic control signs and devices installed in accordance with the current edition of the State Department of Transportation "*Manual of Uniform Traffic Control Devices*".
 - J. The Contractor shall obtain compaction and install base and temporary paving promptly. Contactor shall provide vehicular access to all homes each evening, install laterals promptly, all streets shall be kept clean and free of dust, mud or debris by providing daily clean up as necessary.
 - K. **Native material** shall not be used for trench backfill.
 - L. No backfilling shall be done until the installation to be covered has been inspected and approved for covering. Compaction of backfill shall proceed immediately after backfilling.
 - M. The Contractor shall immediately notify the Engineer upon encountering underground water. Accumulated water shall be prevented from flowing down through the bedding material and later pumping out and softening of surfaces or subgrade causing pavement failure. Where water causes such problems, during either construction or the guaranty period, it shall be drained to the nearest point where flow can be acceptably relieved; using gravel encased perforated metal pipe.
 - N. Sanitary sewer water shall not be allowed to flow into the storm drain system.
 - O. Final paving over excavated area shall be in accordance with City Standard Drawings **ST-06A Trench Construction for Sewer and Storm Mains** and **ST-06B Trench Construction for Water Mains**.

3.02 TRENCH SAFETY PLAN

- A. For trenches and excavations five feet (5') or more in depth, the Contractor shall submit to the Engineer a detailed plan, and any revisions thereto, showing design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazards of caving ground.
- B. Such plan shall be submitted at least ten (10) working days before the Contractor intends to begin trenching or do excavation work.
- C. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Industry Safety, the plan shall be prepared, sealed and signed by a Civil or Structural Engineer registered in California. Signed and sealed copies of calculations necessary to qualify the system shall also be submitted.
- D. Nothing herein shall be deemed to allow the use of shoring, sloping, or protective system less effective than that required by the Construction Safety Orders of the Division of Industrial Safety.

3.03 LAWNS AND CULTIVATED AREAS

- A. Where trench crosses lawns, the sod shall be removed by cutting, stored and kept moist and replaced to its initial condition. Where trench crosses cultivated areas, the topsoil shall be replaced and replanted or cultivated into the same condition as existed prior to excavation.
- B. Due care shall be exercised to avoid injury to existing trees, shrubs and other plants that are not to be removed.

3.04 WIDTH OF TRENCH

- A. Except where otherwise specifically permitted, sides of trenches shall be vertical, shored as required, and shall be of uniform width from top to bottom. Trenches shall be of a width as shown on the detail sheets in the plans, except for small diameter laterals, which may be installed in narrow "Ditch-Witch" type of trench.
- B. Unless otherwise specified or shown, the minimum width of the trench measured at the top of the pipe shall be in accordance with City Standard Drawings **ST-06A Trench Construction for Sewer and Storm Mains** and **ST-06B Trench Construction for Water Mains**.
- C. Whenever the maximum allowable trench width is exceeded for any reason, the Contractor shall concrete embed or otherwise cradle the pipe in a manner satisfactory to the Engineer.

3.05 ASPHALT REMOVAL

- A. Asphalt concrete shall be cut with a suitable tool, preferably a sawcutter, before excavation. Cutting with a jackhammer or a suitable grader-mounted wheel will be allowed provided that a neat orderly result is accomplished. Breaking of concrete or asphalt with excavation equipment will not be permitted.

- B. After trench backfill and compaction, existing paving shall be saw cut vertically, with a neat, square edge just prior to final paving to a point twelve inches (12") or more wider than each side of the trench line. Edges of all asphalt concrete shall be saw-cut to the depth of the existing asphalt concrete pavement with a concrete saw. Saw cuts shall be parallel or perpendicular to centerline of the trench.
- C. Excess paving shall be disposed of and shall not be used as backfill material.
- D. All silt, and water used in the saw cutting operation, shall be removed through the use of a vacuum machine and properly disposed of offsite. All catch basins downstream from the saw cutting operation shall be covered to prevent sediment from entering.

3.06 CONCRETE REMOVAL

- A. Where concrete is to be removed as a part of trenching, remove concrete pavement, curb, walks access ramps and driveway in conformance with SS Subsection 15-3.3 and SS Subsection 73-1.03.
- B. The Contractor shall remove and dispose of all curbs and gutter, sidewalk, and driveway approach. Limits shall be marked in the field by the Contractor and inspected by the Engineer. Limits of removal shall be along straight lines and may be along existing cold joint or expansion joint, score line, or control line or as otherwise marked by the Contractor and approved by the Engineer in the field.
- C. Where the limit of removal is along a location other than an existing cold joint or expansion joint, concrete shall be neatly cut to provide a straight and uniform edge. Where necessary to meet the dimensions for new subgrade for standard curb and gutter, sidewalk, driveway or curb ramp, additional material shall be excavated and removed to provide even and uniform plane.
- D. Where the plans for reconstruction of existing curb and/or sidewalk, and the limits of the new work specified do not fall on a scoring line, the entire section shall be removed and the new work shall be joined to the existing at the first scoring line beyond said specified limit.
- E. The Contractor shall notify the Engineer when tree roots are exposed during concrete removal. City may inspect the tree roots to determine the limits of the root cutting or pruning. The Contractor shall perform all necessary root pruning or removal to complete the work.

3.07 SHORING, SHEETING AND BRACING

- A. The Contractor shall furnish and install all shoring, sheeting, and bracing required to support adjacent earth banks and structures for the protection and safety of all personnel working in the trench. All shoring, sheeting, and bracing shall conform to the requirements of the State Department of Industrial Relations (DIR), Division of Occupational Safety and Health (DOSH), or local agents having jurisdiction over such matters.

- B. Remove shoring, sheeting, and bracing in a manner that will protect the workers and prevent caving of banks and damage to the pipe, excavation, backfill, or adjacent property.

3.08 WATER CONTROL

- A. The Contractor shall be solely responsible for dewatering trenches and excavations, and subsequent control of ground water.
- B. Contractor shall provide and maintain such pumps or other equipment as may be necessary to control ground water and seepage, to the satisfaction of the Engineer and in compliance with the requirements of the geotechnical report. All pumped water must be treated for sediment removal prior to discharge to City storm drains. Seepage coming from the sewer line shall be disposed of into the sanitary system.
- C. Pumped water that is deemed to be contaminated shall be discharged to the sewer. City will obtain sewer discharge permit.

3.09 BACKFILL AND COMPACTION

- A. Initial backfill shall be carefully packed under the haunches of the pipe and brought up simultaneously on both sides, to obviate any displacement of the pipe from its true alignment. The initial backfill shall be compacted in layers no more than **eight inches (8")** in thickness, in a manner that will preclude moving the pipe, to not less than ninety percent (90%) of maximum dry density as determined by the procedure set forth in ASTM D 1557, *"Test Methods For Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using Ten Pound Rammer and Eighteen Inch Drop."*
- B. Water Jetting for compaction of backfill materials shall not be permitted.
- C. Subsequent backfill shall be placed in loose lifts not exceeding **twelve inches (12") in thickness** before compaction, and compacted by the use of pneumatic tampers or other mechanical means approved by the geotechnical engineer. Each layer shall be watered or dried, as required, to bring the soils as close as practical to the optimum moisture content for proper compaction. Compaction equipment or methods that produce horizontal or vertical earth pressures, which may cause excessive displacement or may damage the pipeline, will not be permitted. Lifts of backfill material shall be compacted to not less than ninety percent (90%) above the pipe but not less than ninety-five percent (95%) for a minimum depth of thirty inches (30") below subgrade as determined by the procedure set forth in ASTM D 1557. Subsequent backfill for trenches in unpaved, non-traffic areas shall be compacted to not less than eighty-five percent (85%) of maximum dry density.

3.10 BASE, PAVING, AND TESTING

- A. The Contractor shall compact material as work progresses, and base and temporary paving shall be installed the same day as excavated. Contractor shall install permanent paving within ten (10) working days of initial excavation.

3.11 TESTING

- A. The Contractor shall make all tests when, in the Contractor's opinion, sufficient densities have been achieved. If the first tests in any area fail, the Contractor shall pay for any further testing in that area until specified densities are obtained. Engineer shall determine the number and location of tests required.

-END OF SECTION-

SECTION 32 12 16

ASPHALT PAVING

PART 1 – GENERAL

1.01 WORK INCLUDED

- A. Work under this Section shall consist of furnishing all labor, material, equipment, tools, and services required for the placing and compacting of asphalt concrete pavement for roadways, berms, parking lots, and walkways to the lines, grades, and dimensions shown on the drawings and as specified herein.
- B. Also included shall be the repair and resurfacing of existing roadway and area paving damaged or removed during construction.
- C. Also included shall be application of prime coat over aggregate base surfaces and tack coat over existing asphalt concrete and concrete surfaces adjacent to the new paving.
- D. Seal coats as specified.

1.02 RELATED REQUIREMENTS

Not Used.

1.03 REFERENCE STANDARDS

- A. State Specifications
- B. The Contractor shall comply with the requirements of the Bay Area Air Quality Management District concerning cutback asphalt paving materials and application.

1.04 QUALITY ASSURANCE

To validate that specified final elevations have been provided, the contractor shall provide to the City applicable grade certificates. No separate payment will be made for providing such certification. All cost therefore shall be included in the various work item(s) requiring certification.

1.05 MEASUREMENT AND PAYMENT

- A. Unless otherwise specified in the Special Provisions, measurement and payment for paving and surfacing items of work will be as specified herein.
- B. Aggregate Base. Measurement and payment will be on a ton basis with the truck load slip for each delivery presented to the inspector before unloading.
 - 1. All slips shall show the supplier, net weight, identification mark of carrying vehicle and time of loading.
 - 2. The contract price per ton of aggregate base shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in the delivery spreading, and compaction of the base aggregate, complete in place, as shown on the plans and specified in these specifications and directed by the Engineer.

- C. Planing Asphalt Concrete Pavement
 1. Planed asphalt concrete pavement will be measured by the square foot or square yard per specified width. The quantity to be paid for will be the actual required area of surface planed irrespective of the number of passes required.
 2. The contract price paid per square foot or square yard for planing asphalt concrete pavement shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in planing asphalt concrete surfacing and immediately disposing of material removed, as specified in these specifications and as directed by the Engineer.
- D. Heating and Scarifying
 1. Payment for this work will be included in the cost for asphalt concrete unless separately itemized in the bid schedule.
 2. If separately itemized in the bid schedule, the quantity to be paid for will be the actual surface area to be heated and scarified. Payment then will be made by the square foot or square yard and shall include full compensation for furnishing all labor, equipment, tools, material, traffic control, and cleanup, for heating and scarifying as shown on the plans and as specified in these specifications and the Special Provisions.
- E. Prime Coat
 1. Payment for this work shall be included in the cost of asphalt concrete unless specifically itemized in the bid schedule.
 2. If specifically itemized in the bid schedule, measurement will be by the square foot or square yard. The quantity to be paid for will be the actual area applied. The contract price paid per ton for Prime Coat, if itemized, will include full compensation for furnishing all labor, material, tools, equipment, and incidentals, and for performing all work involved in the application of the prime coat.
- F. Tack Coat
 1. Payment for this work shall be included in the cost for asphalt concrete unless specifically itemized in the bid schedule. If specifically itemized in the bid schedule, measurement shall be by the ton. The quantity to be paid for will be the actual number of tons applied.
 2. The Contract price paid per ton for Tack Coat, if itemized, will include full compensation for furnishing all labor, material, tools, equipment, and incidentals, and for doing all work involved in the application of the tack coat.
- G. Seal Coats (Other Than Slurry Seal)
 1. Measurement for payment will be by the ton, square foot or square yard, whichever unit is designated in the bid schedule. Provision of asphalt emulsion and water for mixing with asphaltic emulsion is included in the above prices and payments.
 2. Payment will include full compensation for furnishing all labor, material, tools, equipment, and incidentals, and for doing all work involved in the application of the seal coat, complete in place.
 3. Measurement and payment for Slurry Seal will be as specified under Section 18.

H. Asphalt Concrete

1. Measurement and payment will be on a ton basis with the truck load slip for each delivery presented to the inspector before unloading. All slips shall show the supplier, net weight, identification mark of carrying vehicle and time of loading.
2. The contract price per ton shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in constructing asphalt concrete, complete in place, as shown on the plans and as specified in these specifications, and as directed by the Engineer.
3. Contractor shall control the asphalt concrete quantity so that it is to the thickness as specified on the plan. Any extra asphalt concrete placed that exceeds ten percent (10%) of the calculated quantity shall be paid by the contractor.

1.06 SUBMITTALS

- A. Submit the following under the Product (Information) category.
1. The Contractor shall cooperate with the Engineer and furnish necessary facilities for sampling and testing of all materials and workmanship. All materials furnished and all work performed shall be subject to the City's inspection, and no materials shall be used in the construction work until it has been approved by the Engineer.
 2. The Contractor shall submit a signed verification from each source of supply for each construction material employed on the project, indicating that the materials meet the Specification requirements.
 3. Mix design for asphalt concrete.

PART 2 – PRODUCTS

2.01 AGGREGATE BASE

- A. Aggregate bases shall consist entirely of Class 2 material, as set forth in Section 26-1.02B, "*Class 2 Aggregate Base*," of the *State Specifications*.
- B. Maximum aggregate size shall be three-fourths inches (3/4").
- C. Contractor shall provide supplier certifications concerning the gradation and durability of the aggregate base. Compaction and other tests will be done by others.

2.02 PRIME COAT

- A. Material for prime coat shall consist of MC-70 conforming to the requirements of Section 93, "*Liquid Asphalts*," of the *State Specifications*.

2.03 TACK COAT

Material for tack coat shall consist of SS1h or SS1, conforming to the requirements of Section 94, "*Asphaltic Emulsions*," of the *State Specifications*, or AR-1000, conforming to the requirements of Section 92, "*Asphalts*," of the *State Specifications*.

2.04 SEAL COATS (OTHER THAN SLURRY SEAL)

Material for seal coat shall consist of CSS1h, or SS1h conforming to the requirements of Section 94, "*Asphaltic Emulsions*," of the *State Specifications*.

Aggregate cover shall consist of one of the screening gradations specified in Section 37-1.02, "*Materials*," of the *State Specifications*. Seal coat type shall be as specified in the Special Provisions.

2.05 ASPHALT CONCRETE

Material for asphalt concrete or plant mix shall be furnished and placed in strict conformance with Section 39, "*Asphalt Concrete*," of the *State Specifications*. Asphalt binder shall conform to the requirements of Section 92, "*Asphalts*," of the *State Specifications*. Aggregate shall be either Type A or Type B. However, maximum aggregate size shall be one-half inch (1/2"), unless otherwise specified. For lifts of one inch (1") or less compacted thickness, and when material is placed by extrusion, maximum aggregate size shall be three-eighths of an inch (3/8").

PART 3 – EXECUTION

3.01 GENERAL

- A. These specifications shall cover newly paved areas, as well as existing pavement restoration.
- B. Where trenching or other construction activity has resulted in damage to a localized area of pavement, the damaged pavement surface shall be cut back six inches (6") beyond the damaged area.
- C. Where the damaged area extends over more than fifty percent (50%) of the road width or paved area, as determined by the Engineer, the full pavement width or area shall be saw cut, excavated, removed and repaired.
- D. All city owned structures such as valve boxes, manhole frames and covers and monuments within the resurfaced areas shall be adjusted to the new grade, as necessary. Spraying of liquid asphalts and coatings will not be permitted on windy days (in excess of fifteen miles per hour (15 mph)).

3.02 MAINTAINING TRAFFIC AND PUBLIC SAFETY

- A. During the paving operations, the Contractor shall furnish and place sufficient barricades at all cross streets to protect new surfacing from traffic until sufficiently cooled, as well as "DETOUR" signs one (1) block away from all impassable intersections. At least one (1) lane of through traffic shall remain open, and sufficient traffic cones placed between the through lane and the freshly surfaced lane to prevent traffic from using the freshly surfaced lane until sufficiently compacted and cooled.
- B. Spreader and other equipment shall be moved only on truck or trailer with pneumatic tires.
- C. In all cases, the Contractor shall be responsible for the complete protection of new surfacing from traffic until sufficiently compacted and cooled.

3.03 PAVEMENT CUTTING

- A. After backfilling and prior to paving, proper tools and equipment shall be used in marking and breaking so that the pavement shall be cut on neat straight lines parallel to the trench or roadway centerline. The asphalt pavement shall be saw cut using a concrete saw to a minimum depth of two inches (2") or one-half

(1/2) the thickness thereof, whichever is greater. The pavement shall be cut back twelve inches (12") on each side of the trench or excavation wall. Any pavement damaged outside these lines shall be re-cut and restored at the expense of the Contractor. Should voids develop under existing pavements during construction, the affected pavement shall be neatly saw cut in straight lines and replaced after the voids have been filled.

- B. All water generated from pavement cutting shall be contained and treated for sediment removal (through filtration or sedimentation) prior to discharge to the City storm drain.

3.04 PLACEMENT OF AGGREGATE BASE

- A. Aggregate bases shall be placed and compacted in accordance with Section 26, "*Aggregate Bases*," of the *State Specifications*.

3.05 PREPARATION OF EXISTING ASPHALT CONCRETE

- A. Planning Asphalt Concrete Pavement:
 - 1. Existing asphalt concrete shall be planed at the locations and to the dimensions shown on the plans or field marked by the engineer and in accordance with these Specifications.
 - 2. Planning asphalt concrete pavement shall be performed by cold planing. The cold planing machine shall have a cutter head at least thirty inches (30") wide and shall be operated so as not to produce fumes or smoke.
 - 3. The depth, width, and shape of the cut shall be as indicated on the typical cross sections or as directed by the Engineer. The final cut shall result in a uniform surface conforming to the typical cross sections. The outside lines of the planed area shall be neat and uniform. The road surfacing to remain in place shall not be damaged in any way.
 - 4. Planed widths of pavement shall be continuous except for intersections at cross streets where the planing shall be carried around the corners and through the conform lines or as shown on the plans.
 - 5. Planing adjacent to existing manhole or other street boxes shall be within 6" minimum of the structure. Structures that are damaged as a result of Contractor activity shall be repaired or replaced to pre-construction condition at no cost to the City.
 - 6. The material planed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be immediately removed from the site of the work, and hauled and stockpiled at the location designated by the Engineer. The removal crew shall follow within fifty feet (50') of the planer, unless otherwise directed by the Engineer.
 - 7. Heating and Scarifying. The existing street surface indicated on the plans to be heated and scarified shall be heated by a mobile surface heater with lateral and vertical controls. These controls shall be used to control the application of heat to the desired location and prevent damage to adjacent concrete gutters. Additionally, the Contractor will protect trees and other planting from heat damage.
 - 8. The asphalt binder shall not be charred in excess of one tenth of one percent (0.10%) and the scarified surface must show live asphalt cement as a result of the applied heat.

9. At least fifty percent (50%) of the existing top two inches (2") of aggregate of the pavement being remixed shall be moved by spinning or tumbling, thus providing for the filling of cracks and turning over the work or dried faces which have lain upward. The asphalt paving remixer shall be adjustable from three-and-a-half feet (3-1/2') to twelve feet (12') in width, and passes shall be six inches (6") wider than the spreader following. The remixer shall also be of a type to remix depressions in the pavement to a depth of at least two inches (2"). The remixer shall be of the Therma-Bond type, Rola-Burner type, or approved equal. Immediately after the application of heat, the remixer shall pass over the heater surface and remix to a minimum depth of one-half inch (1/2").
10. The pavement remixer shall be adjustable in width and depth of application, and the remixed surface shall be uniformly and evenly spread without scattering, ridging, or breaking of the mineral aggregate.
11. Following the remixing, a tack coat of SS-1h grade of emulsion (Asphalt Institute designation) shall be applied in accordance with Sections 39, "Asphalt Concrete," and 94, "Asphaltic Emulsion," of the State Specifications at the minimum rate of one-tenth (1/10) gallon per square yard by a distributor truck meeting the State Specifications. Immediately following the tack coat and while the remixed surface is in a softened state, asphalt concrete shall be placed. No surface shall be allowed to stand after heating, remixing, and application of tack coat, for such a period of time as to prevent proper compaction and bonding of the remixed material and the new course of plant-mixed surfacing.
12. No traffic shall be allowed to run on the scarified, remixed, tack-coated, or overlaid surface, until pavement is final-rolled and cooled below 150°F.
13. Should work be stopped before placing of the plant-mixed surface due to inclement weather, unavailability of asphalt concrete material, work stoppage at the end of the working day, etc., the surface shall be reheated and remixed at the Contractor's expense.

3.06 PRIME COAT

Prime Coat shall be applied to all aggregate base prior to laying asphaltic surfacing. It shall be applied in accordance with Sections 39-4.02, "Prime Coat and Paint Binder," and 93-1.03, "Mixing and Applying," of the State Specifications.

3.07 TACK COAT

A tack coat (binder coat) shall be applied to existing asphaltic or concrete surfaces that are to receive an asphaltic overlay. Asphaltic pavement which has been exposed to the weather less than thirty (30) days need not be tack-coated. Tack coat shall be applied at a rate of two hundredths (0.02) to one tenth (0.10) gallon per square yard, in accordance with Section 39-4.02, "Prime Coat and Paint Binder," of the State Specifications.

3.08 SEAL COAT (OTHER THAN SLURRY SEAL)

- A. Where called for in the plan or Special Provisions, or required by the Engineer, a seal coat shall be applied to new or older pavement. A seal coat shall be applied at the rate of fifteen-hundredths (0.15) to three-tenths (0.30) gallon per square yard immediately followed by aggregate cover. Aggregate cover shall be one-quarter inch (1/4") x No. 10 screening spread uniformly over the area.

Screening shall be tightly rolled into binder with a five (5) ton steel-wheeled roller. After four (4) calendar days, excess screenings shall be removed by brooming, without disturbing screenings set in binder.

- B. Preparation and placement of seal shall be in accordance with Section 37-1, "Seal Coats" of the State Specifications.

3.09 PLACEMENT OF ASPHALT CONCRETE

- A. Spreading and compacting of asphalt concrete shall be in accordance with Section 39, "Asphalt Concrete," of the State Specifications.
- B. Pavement width and location for Collector Streets (42 feet curb to curb) and Arterial Streets (greater than 42 feet curb to curb). To assure that the pavement seam is not placed in the vehicle tire path, the pavement curb to curb shall be as follows:
 - 1. Collector Streets – Pavement seam shall be on centerline of street. Pavement width shall be a minimum of 12 feet wide either side of centerline, i.e., four (4) pavement widths are required to pave a collector street.
 - 2. Arterial Street – Pavement seam shall be on centerline of street. Pavement width shall be a minimum of 12 feet wide either side of centerline. For divided streets, pavement seams shall match the new lane markings.

3.10 ADJUSTING MANHOLE, VALVE AND SURVEY MONUMENT COVERS TO GRADE

- A. The location of these structures, if shown on the plans, is approximate only. It shall be the Contractor's responsibility to suitably locate them prior to resurfacing.
- B. The Contractor shall identify all utilities covered during resurfacing by dimples and curb markings.
- C. All City manholes, valve covers, monument box covers, traffic signal covers, and other City service access covers shall be raised within ten (10) calendar days after resurfacing is completed. Water valves and specially designated items must be raised within five (5) working days after paving. The Contractor shall notify Pacific Gas and Electric Company, AT&T, cable television companies, and other utilities affected by the resurfacing in writing within twenty-four (24) hours after each street section (block) is paved and provide copies of the same to the Engineer.
- D. The monuments themselves shall not be disturbed.
- E. If the Contractor elects to raise the manhole cover castings by bricks and mortar, the casting shall be placed to new grade in compliance with these specifications, as outlined for a new casting. Special care shall be exercised not to spill mortar or grout. The inside surface of the raised manhole shall have a mortar finish.
- F. Manholes shall be adjusted to grade using three inch (3") thick and six inch (6") thick reinforced concrete grade rings or a combination thereof, from Hanson Concrete Products, Inc. or approved equivalent. If the required adjustment to grade is less than three inches (3"), brick and mortar shall be used. If the required adjustment to grade is more than three inches (3") but less than six inches (6"), a three inch (3") thick reinforced concrete grade rings complemented by bricks and mortar shall be used.

-END OF SECTION-

ATTACHMENT A - PG&E PRELIMINARY DESIGN

**ATTACHMENT B - MOBILITY HOUSE AND
REVOLUTION PI TECHNICAL DATA**

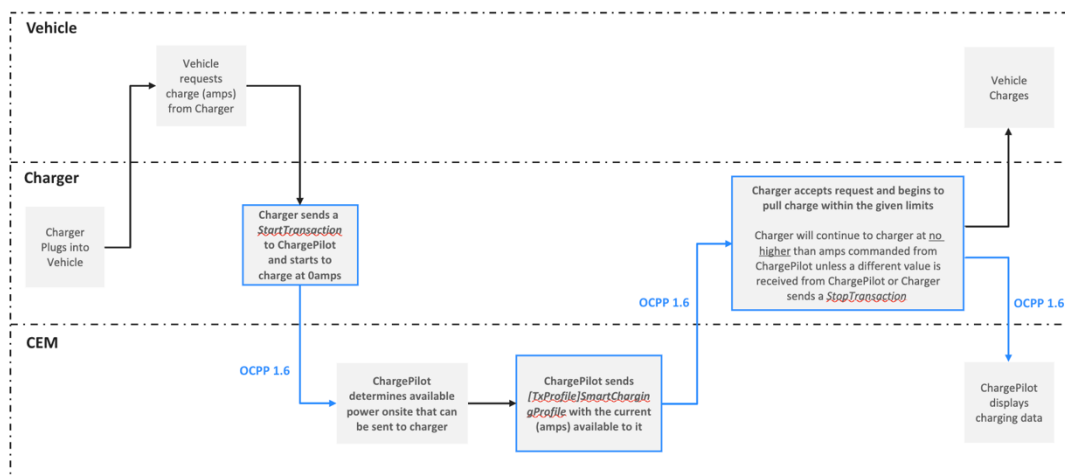
ChargePilot Charging and Energy Management

ChargePilot is an automatic load management system, also sometimes called a automated load control management system (LCMS). With ChargePilot, fleet managers can centrally monitor and manage all chargers dynamically to reduce overall power demand, manage loads, and keep track of fleet’s energy consumption while charging. ChargePilot optimizes the use of available power on at fleet charging site and ensures the optimal use of existing and new charging infrastructure. The automatic load management system can control the output of the electric vehicle chargers such that a specific site or a user-defined maximum load on a service or feeder is not exceeded.

In the National Electrical Code (“NEC”), which describes requirements for site-level wiring and electrical installations, electric vehicles are considered “continuous loads”, meaning they are assumed to charge at their full capacity for at least three hours in a row on a regular basis. To serve a continuous load, NEC requires that infrastructure and over-current protections be designed according to the infrastructure’s rating. Many devices are commonly rated to 80%, meaning that site infrastructure must be sized to 125% of the load’s nameplate capacity.. In 2014, the National Fire Protection Association (who publishes the NEC) addressed this limiting requirement by including in Section 625.42 a specific provision for electric vehicle load, allowing the maximum load to be based not on nameplate, but rather on the maximum load allowed by an Automated Load Management system, called an EMS set point. The effect of this change, which has been refined and further specified in later editions of the NEC, allows for more EVSEs and EVs on a site than would be previously allowed as long as there is a system guaranteeing the EVs will never exceed the EMS set point limit.

ChargePilot includes an industrial computer that is installed at the fleet charging site (TMH controller), which communicates with each charger via [Open ChargePoint Protocol \(OCPP\)](#) using an Ethernet connection. This communication includes initiating charging events and defining the maximum amount of current each charger has available to output. ChargePilot receives measurements relating to the site’s overall electricity consumption from a locally installed energy meter at intervals of a few seconds. If additional loads or generators are connected to the individual sub-distribution units in addition to charging stations, electricity meters are installed for each sub-distribution unit to communicate the site’s load to the TMH Controller in real time via Modbus TCP or RTU. Considering various meter values, ChargePilot® adjusts the power distribution dynamically, achieving the greatest possible potential for charging. The total power available for the charging infrastructure is then distributed dynamically, considering the other consumers at the site in accordance with the phase load. This makes it possible to make optimal use of the available grid power.

The TMH Controller ([Kunbus RevPi Connect S 8 Gb](#)) continuously calculates (using The Mobility House’s proprietary algorithm) the available power for each charger considering the total available load on a given site at the time and sends a control command with the associated available power or current to the individual chargers. The chargers will not output any current until a command to do so is received from ChargePilot. The communication process between ChargePilot, charger, and vehicle is shown in the diagram below. If the TMH Controller loses its internet connection, charging processes that are currently in progress are not interrupted and the optimization of the power distribution continues as usual. Data exchange with the backend is not possible, and the charging infrastructure cannot be monitored or controlled remotely via ChargePilot.

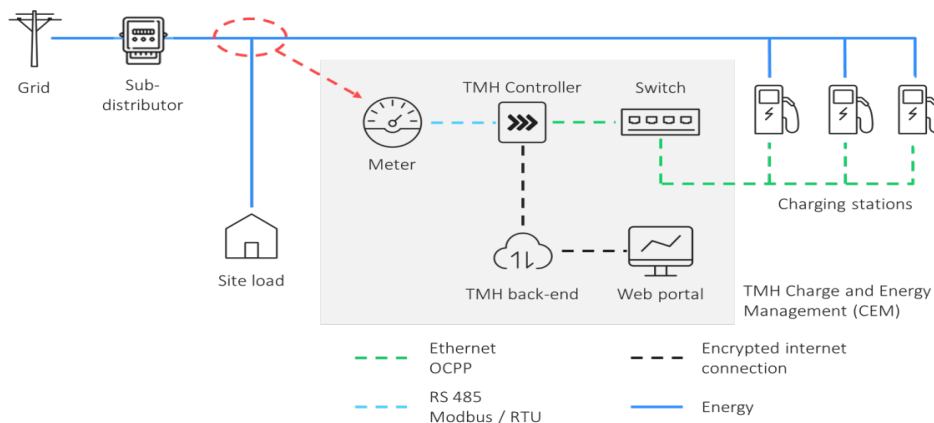


*All items in blue use [Open Charge Point Protocol 1.6 \(OCPP\)](#) standard and are communicated over ethernet

To ensure the highest level of reliability, the ChargePilot system architecture applies both local (TMH Controller) and cloud intelligence (TMH backend). In case the internet connection is interrupted, charging processes are not visible in live view on the Web Portal, but the actual charging processes on site are not affected because all optimization calculations are run on the local TMH Controller.

If a charging station loses the OCPP connection with the ChargePilot Controller, the system seamlessly switches to fallback mode, ensuring the charging power of the affected station is maintained at a safe limit. The Mobility House can set the fallback values, which then applies for all phases. This value is subtracted from the available charging power at the over current protection device (OCPD) and panel limits to which the charging station is connected and at the upstream fuses. For charging stations with two dispensers, the fallback value can either be shared between the two dispensers equally or be allocated to a primary connection depending on the charging station manufacture.

The following schematic shows the general configuration on site.



Automatic Load Management for San Bruno Corp Yard EV Chargers Phase 2, City of San Bruno 567 El Camino Real San Bruno CA 94066

For the San Bruno Corp Yard project, the automatic load management system ChargePilot will control all chargers connected to DP-EV and MSB-EV such that the combined demand load of the 2 Autel Maxi chargers plus DP-EV on MSB-EV and the 7 Autel Maxi chargers on DP-EV does not exceed 640A at 480V and 800A at 208V respectively.

Legal Disclaimer

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REVOLUTION PI

RevPi Connect 4

Technical Data

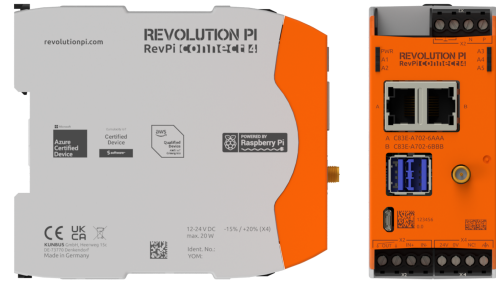
Article No.: 100376 (2 GB / 8 GB)

Article No.: 100377 (WLAN / 2 GB / 8 GB)

Article No.: 100378 (4 GB / 32 GB)

Article No.: 100379 (WLAN / 4 GB / 32 GB)

Article No.: 100380 (WLAN / 8 GB / 32 GB)



Housing dimensions (H x W x D)	96 x 45 x 110,5 mm
Housing type	DIN rail housing (for DIN rail version EN 50022)
Housing material	Polycarbonate
Weight	approx. 197 g / 224 g (incl. connectors)
Protection class	IP20
Power supply	10.8 ... 28.8 V DC ¹
Max. power consumption	20 W (incl. 2 x 800 mA USB load) ²
Allowed operating temperature	-25 ... +55 °C
Allowed storage temperature	-40 ... +85 °C
Max. relative humidity (at 40 °C)	up to 93 % (non-condensing)
Interfaces	2 x USB A 3.2 Gen 1 2 x RJ45 GBit Ethernet 1 x RS485 screw-type terminal 1 x Micro-USB (solely for image transfer to eMMC) 1 x Micro-HDMI 2.0a (4K) 2 x PiBridge (connectors at the left and at the right side) 1 x RP-SMA socket for connecting an external WLAN/BT antenna (2.4 / 5 GHz), not available on Article No. 100376 and 100378
Connectors	1 x 4-pole screw-type terminal for RS485 1 x 4-pole screw-type terminal for relay contact and signal input 1 x 4-pole screw-type terminal for power supply
Processor	Broadcom BCM2711, quad-core Arm Cortex-A72
Clock rate	1.5 GHz
Processor cooling	Passive with heat sink

Errors and omissions excepted.

KUNBUS GmbH, Heerweg 15C, 73770 Denkendorf, Germany | Tel: +49 (0) 711 400 91 500 | Fax: +49 (0) 711 400 91 501 |
Email: info@kunbus.com | Web: www.revolutionpi.com

V 1.2
1/2

REVOLUTION PI

RevPi Connect 4

RAM	2 GB LPDDR4 (Article No.: 100376, 100377), 4 GB LPDDR4 (Article No.: 100378, 100379), 8 GB LPDDR4 (Article No.: 100380)
Flash memory	8 GB (Article No.: 100376, 100377), 32 GB (Article No.: 100378, 100379, 100380)
WLAN / Bluetooth	2.4 GHz, 5.0 GHz IEEE 802.11 b/g/n/ac wireless; Bluetooth 5.0, BLE
Number of digital input channels	1
Digital input type	24 V DC control voltage (e.g. for power-good signal of a UPS)
Input thresholds	approx. 10 V DC (0 -> 1) resp. 7 V DC (1 -> 0); input current 2.4 mA (according to IEC 61131-2)
Number of digital output channels	1
Output type	opto-decoupled solid state relay, normally open, max. 30 V, 300 mA DC, any polarity
Software interface of input and output	Via GPIOs and process image
Hardware watchdog	Watchdog in RTC device, freely configurable watchdog character device
Compatible modules for system expansion	All RevPi IO modules can be connected via the PiBridge system bus Up to 5 modules can be connected as well to the left as to the right side of the device
EMC interference emission	according to IEC 61000-6-4 Emission standard for industrial environments
EMC immunity	according to IEC 61000-6-2 Immunity standard for industrial environments
Mean time between failures (MTBF) at 50 °C	67322 h / 7.7 years / 14854 FIT
Mean time between failures (MTBF) at 65 °C	35500 h / 4.1 years / 28169 FIT
RTC buffer	CR2032 lithium battery, lifetime approx. 10 years
Optical indicator	6 status LEDs; 5 x red/green/blue, freely programmable, 1 x red/green
Conformity	CE, UKCA

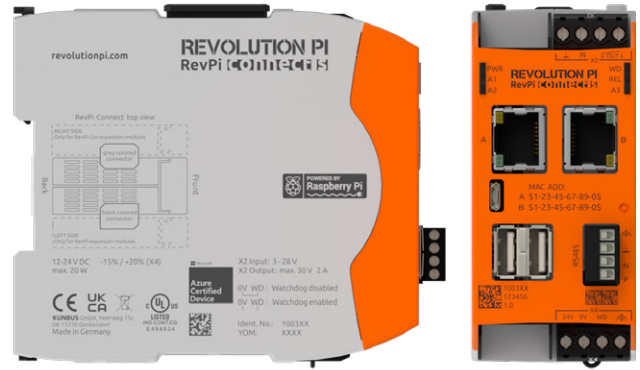
¹ The bridging time required by EN 61131-2 of voltage dips of at least 10 ms and the max. USB output current are only guaranteed with a supply voltage 24 V -15 % / +20 %.

² The average power consumption without USB load varies greatly and depends on the use of the interfaces, the GPU and the CPU. It is usually well below 4 watts without HDMI.

REVOLUTION PI

RevPi Connect S

Article No.: 100362 (8 GB version)
Article No.: 100363 (16 GB version)
Article No.: 100364 (32 GB version)



Technical Data

Housing dimensions (H x W x D)	96 x 45 x 110.5 mm
Housing type	DIN rail housing (for DIN rail version EN 50022)
Housing material	Polycarbonate
Weight	approx. 197 g / 224 g (incl. connectors)
IP Code	IP20
Power supply	12-24 V DC -15 % / +20 %, reverse-polarity protected
Max. power consumption	20 Watt (incl. 1 A total USB output current) ¹
Operating temperature	-25 °C....+55 °C
Storage temperature	-40 °C....+85 °C
Humidity (at 40 °C)	93 % (non-condensing)
Interfaces	2 x USB A (Total current draw from both sockets max. 1 A) ² 2 x RJ45 10/100 Ethernet (using separate MAC addresses) 1 x RS485 screw-type terminal 1 x Micro-USB (solely for image transfer to eMMC) 1 x Micro HDMI HDMI 2.0a (4K) 1 x PiBridge system bus 1 x ConBridge system bus
Connectors	1 x 4-pole screw-type terminal for relay contact and signal input 1 x 4-pole screw-type terminal for power supply
Processor	Broadcom BCM2711, quad-core Arm Cortex-A72
Clock rate	1.5 GHz
Processor cooling	Passive with heat sink
RAM	1 GB LPDDR4
Flash memory	8 GB (Article No.: 100362), 16 GB (Article No.: 100363), 32 GB (Article No.: 100364)
Number of digital input channels	1
Input type	24 V control voltage (e.g. for power-good signal of a UPS)
Input thresholds	approx. 3.0 V (0 -> 1) / 2.3 V (1 -> 0)
Input protection	against overvoltage, negative voltages

¹ The average power consumption without USB load varies greatly and depends on the use of the interfaces, the GPU and the CPU. It is usually well below 4 watts without HDMI.

² 1 A USB output current (total of both USB outputs) is only available for input voltages >11 V. The bridging time of at least 10 ms required by EN 61131-2 is only guaranteed with a 20.4 to 28.8 V power supply. With a 12 V power supply, this time is significantly reduced, especially when power is drawn from the USB ports.

REVOLUTION PI

RevPi Connect S

Article No.: 100362 (8 GB version)

Article No.: 100363 (16 GB version)

Article No.: 100364 (32 GB version)

Technical Data

Number of digital output channels	1
Output type	Relay contact, approval up to 30 V switching voltage (e.g. for power supply of a router)
Maximum current load of the contact	2 A @ 30V DC (resistive load!)
Software integration of input and output	Via GPIOs and process image. Output is optionally switched by hardware watchdog.
Hardware watchdog functionality	Can be disabled by bridging the 4-pole screw-type terminal. Reset by toggling a GPIO or alternatively a bit in the process image.
Hardware watchdog intervall	Trigger after approx. 60 seconds without toggling the reset bit.
Compatible modules for system expansion	All RevPi IO modules and RevPi Gateway modules can be connected via the PiBridge system bus. All RevPi Con modules can be connected via the ConBridge system bus.
ESD protection	4 kV / 8 kV (according to EN61131-2 and IEC 61000-6-2)
EMI tests	Passed (according to EN61131-2 and IEC 61000-6-2)
Surge/Burst tests	Passed (according to EN61131-2 and IEC 61000-6-2)
Buffer time RTC	min. 24 h
Optical indicator	6 status LEDs (bi-color), two of them freely programmable
RoHS conformity	Yes
CE conformity	Yes
UL certification	Yes, UL-File-No. E494534 Note: The device may only be supplied from circuits that comply with Class 2 or Safety Extra Low Voltage (SELV) according to Class 9.4 of UL 61010-1.

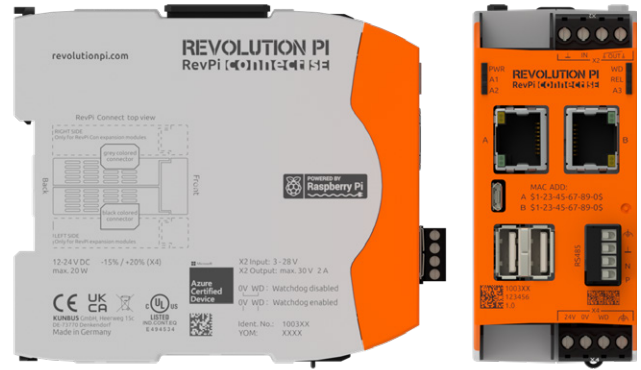
REVOLUTION PI

RevPi Connect SE

Article No.: 100368 (8 GB version)

Article No.: 100369 (16 GB version)

Article No.: 100370 (32 GB version)



Technical Data

Housing dimensions (H x W x D)	96 x 45 x 110.5 mm
Housing type	DIN rail housing (for DIN rail version EN 50022)
Housing material	Polycarbonate
Weight	approx. 197 g / 224 g (incl. connectors)
IP Code	IP20
Power supply	12-24 V DC -15 % / +20 %, reverse-polarity protected
Max. power consumption	20 Watt (incl. 1 A total USB output current) ¹
Operating temperature	-25 °C....+55 °C
Storage temperature	-40 °C....+85 °C
Humidity (at 40 °C)	93 % (non-condensing)
Interfaces	2 x USB A (Total current draw from both sockets max. 1 A) ² 2 x RJ45 10/100 Ethernet (using separate MAC addresses) 1 x RS485 screw-type terminal 1 x Micro-USB (solely for image transfer to eMMC) 1 x Micro HDMI HDMI 2.0a (4K) 1 x PiBridge system bus 1 x ConBridge system bus
Connectors	1 x 4-pole screw-type terminal for relay contact and signal input 1 x 4-pole screw-type terminal for power supply
Processor	Broadcom BCM2711, quad-core Arm Cortex-A72
Clock rate	1.5 GHz
Processor cooling	Passive with heat sink
RAM	1 GB LPDDR4
Flash memory	8 GB (Article No.: 100368), 16 GB (Article No.: 100369), 32 GB (Article No.: 100370)
Number of digital input channels	1
Input type	24 V control voltage (e.g. for power-good signal of a UPS)
Input thresholds	approx. 3.0 V (0 -> 1) / 2.3 V (1 -> 0)
Input protection	against overvoltage, negative voltages

¹ The average power consumption without USB load varies greatly and depends on the use of the interfaces, the GPU and the CPU. It is usually well below 4 watts without HDMI.

² 1 A USB output current (total of both USB outputs) is only available for input voltages >11 V. The bridging time of at least 10 ms required by EN 61131-2 is only guaranteed with a 20.4 to 28.8 V power supply. With a 12 V power supply, this time is significantly reduced, especially when power is drawn from the USB ports.

REVOLUTION PI

RevPi Connect SE

Article No.: 100368 (8 GB version)

Article No.: 100369 (16 GB version)

Article No.: 100370 (32 GB version)

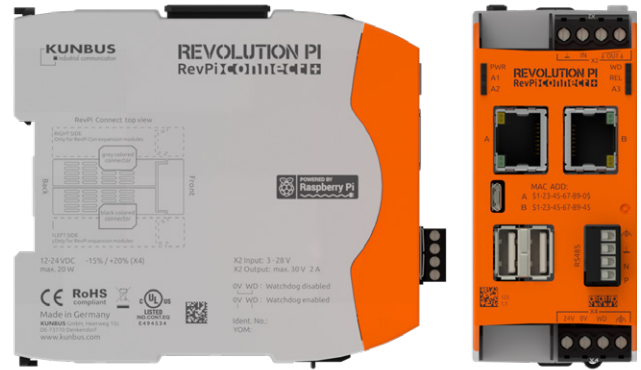
Technical Data

Number of digital output channels	1
Output type	Relay contact, approval up to 30 V switching voltage (e.g. for power supply of a router)
Maximum current load of the contact	2 A @ 30V DC (resistive load!)
Software integration of input and output	Via GPIOs and process image. Output is optionally switched by hardware watchdog.
Hardware watchdog functionality	Can be disabled by bridging the 4-pole screw-type terminal. Reset by toggling a GPIO or alternatively a bit in the process image.
Hardware watchdog intervall	Trigger after approx. 60 seconds without toggling the reset bit.
Compatible modules for system expansion	All RevPi IO modules can be connected via the PiBridge system bus. All RevPi Con modules can be connected via the ConBridge system bus. ! Not compatible with RevPi Gateways !
ESD protection	4 kV / 8 kV (according to EN61131-2 and IEC 61000-6-2)
EMI tests	Passed (according to EN61131-2 and IEC 61000-6-2)
Surge/Burst tests	Passed (according to EN61131-2 and IEC 61000-6-2)
Buffer time RTC	min. 24 h
Optical indicator	6 status LEDs (bi-color), two of them freely programmable
RoHS conformity	Yes
CE conformity	Yes
UL certification	Yes, UL-File-No. E494534 Note: The device may only be supplied from circuits that comply with Class 2 or Safety Extra Low Voltage (SELV) according to Class 9.4 of UL 61010-1.

REVOLUTION PI

RevPi Connect+

Article No.: 100302 (8 GB version)
Article No.: 100303 (16 GB version)
Article No.: 100304 (32 GB version)



Technical Data

Housing dimensions (H x W x D)	96 x 45 x 110.5 mm
Housing type	DIN rail housing (for DIN rail version EN 50022)
Housing material	Polycarbonate
Weight	approx. 197 g / 224 g (incl. connectors)
IP Code	IP20
Power supply	12-24 V DC -15 % / +20 %, reverse-polarity protected
Max. power consumption	20 Watt (incl. 1 A total USB output current) ¹
Operating temperature	-25 °C....+55 °C
Storage temperature	-40 °C....+85 °C
Humidity (at 40 °C)	93 % (non-condensing)
Interfaces	2 x USB A (Total current draw from both sockets max. 1 A) ² 2 x RJ45 10/100 Ethernet (using separate MAC addresses) 1 x RS485 screw-type terminal 1 x Micro-USB (solely for image transfer to eMMC) 1 x Micro HDMI 1 x PiBridge system bus 1 x ConBridge system bus
Connectors	1 x 4-pole screw-type terminal for relay contact and signal input 1 x 4-pole screw-type terminal for power supply
Processor	Broadcom BCM2837B0 quad-core ARM Cortex A53
Clock rate	1.2 GHz
Processor cooling	Passive with heat sink
RAM	1 GB
Flash memory	8 GB (Article No.: 100302), 16 GB (Article No.: 100303), 32 GB (Article No.: 100304)
Number of digital input channels	1
Input type	24 V control voltage (e.g. for power-good signal of a UPS)
Input thresholds	approx. 3.0 V (0 -> 1) / 2.3 V (1 -> 0)
Input protection	against overvoltage, negative voltages

¹ The average power consumption without USB load varies greatly and depends on the use of the interfaces, the GPU and the CPU. It is usually well below 4 watts without HDMI.

² 1 A USB output current (total of both USB outputs) is only available for input voltages >11 V. The bridging time of at least 10 ms required by EN 61131-2 is only guaranteed with a 20.4 to 28.8 V power supply. With a 12 V power supply, this time is significantly reduced, especially when power is drawn from the USB ports.

REVOLUTION PI

RevPi Connect+

Article No.: 100302 (8 GB version)

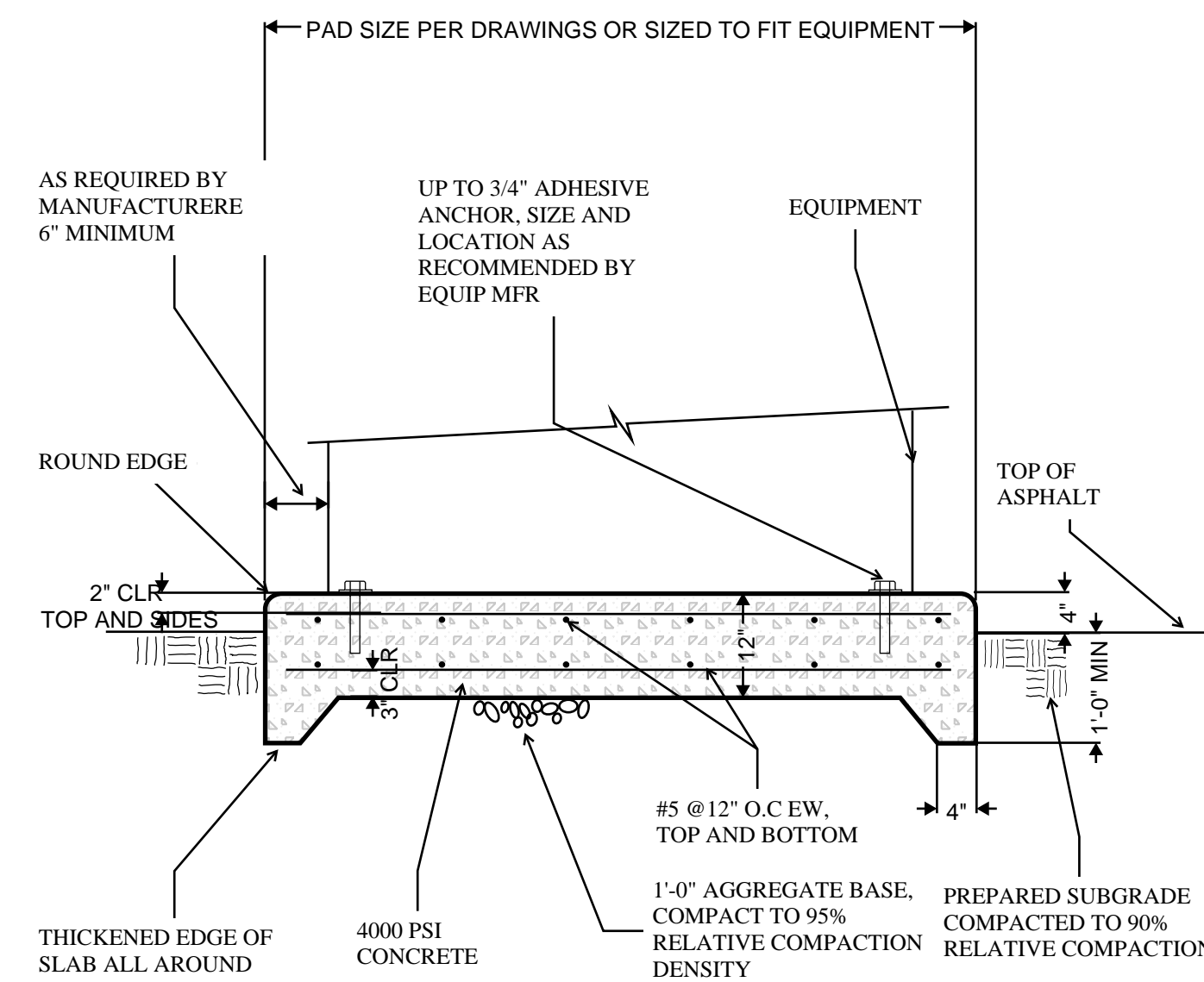
Article No.: 100303 (16 GB version)

Article No.: 100304 (32 GB version)

Technical Data

Number of digital output channels	1
Output type	Relay contact, approval up to 30 V switching voltage (e.g. for power supply of a router)
Maximum current load of the contact	2 A @ 30V DC (resistive load!)
Software integration of input and output	Via GPIOs and process image. Output is optionally switched by hardware watchdog.
Hardware watchdog functionality	Can be disabled by bridging the 4-pole screw-type terminal. Reset by toggling a GPIO or alternatively a bit in the process image.
Hardware watchdog intervall	Trigger after approx. 60 seconds without toggling the reset bit.
Compatible modules for system expansion	All RevPi IO modules and RevPi Gate modules can be connected via the PiBridge system bus. Various transceiver modules can be connected via the ConBridge system bus.
ESD protection	4 kV / 8 kV (according to EN61131-2 and IEC 61000-6-2)
EMI tests	Passed (according to EN61131-2 and IEC 61000-6-2)
Surge/Burst tests	Passed (according to EN61131-2 and IEC 61000-6-2)
Buffer time RTC	min. 24 h
Optical indicator	6 status LEDs (bi-color), two of them freely programmable
RoHS conformity	Yes
CE conformity	Yes
UL certification	Yes, UL-File-No. E494534 Note: The device may only be supplied from circuits that comply with Class 2 or Safety Extra Low Voltage (SELV) according to Class 9.4 of UL 61010-1.

**ATTACHMENT C - SHEET C-101 : CIVIL AND
STRUCTURAL DETAILS**

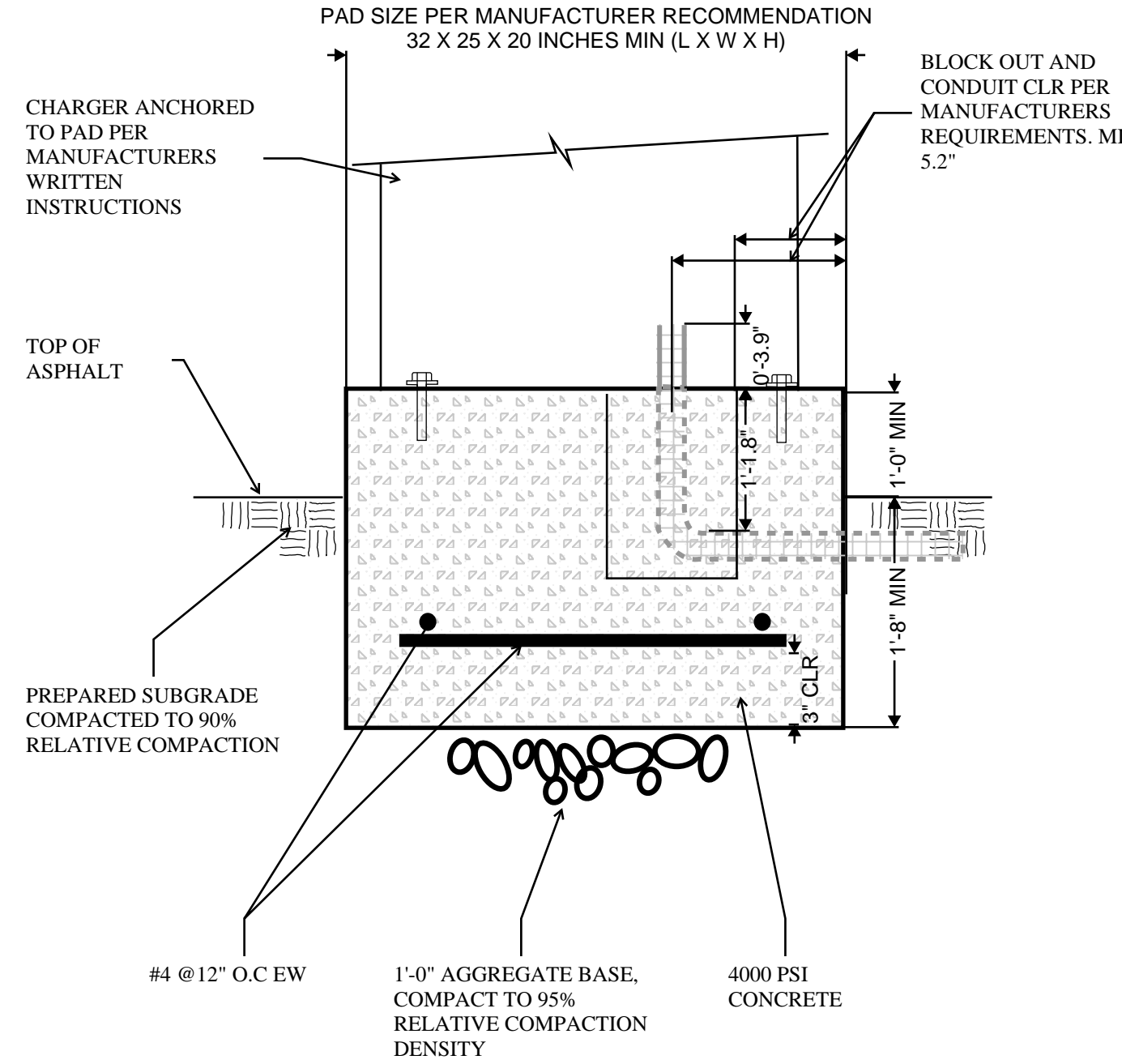


NOTES:

1. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A ONE PIECE TEMPLATE, MATCHING THE BASE PLATE, WHILE PAD IS BEING POURED.
2. ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE THE ANCHOR BOLT A MINIMUM MOVEMENT OF 1/2" IN ALL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT.
3. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN THE BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN THE ANCHOR BOLT DIAMETER.
4. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
5. WEDGES OR SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE THE NON-SHRINK GROUT IS PLACED. TEMPORARY LEVELING NUTS SHALL BE BACKED OFF. IF LEFT IN, THE WEDGES OR SHIMS SHALL NOT BE EXPOSED TO VIEW.

SWITCHBOARD PAD
NTS

1

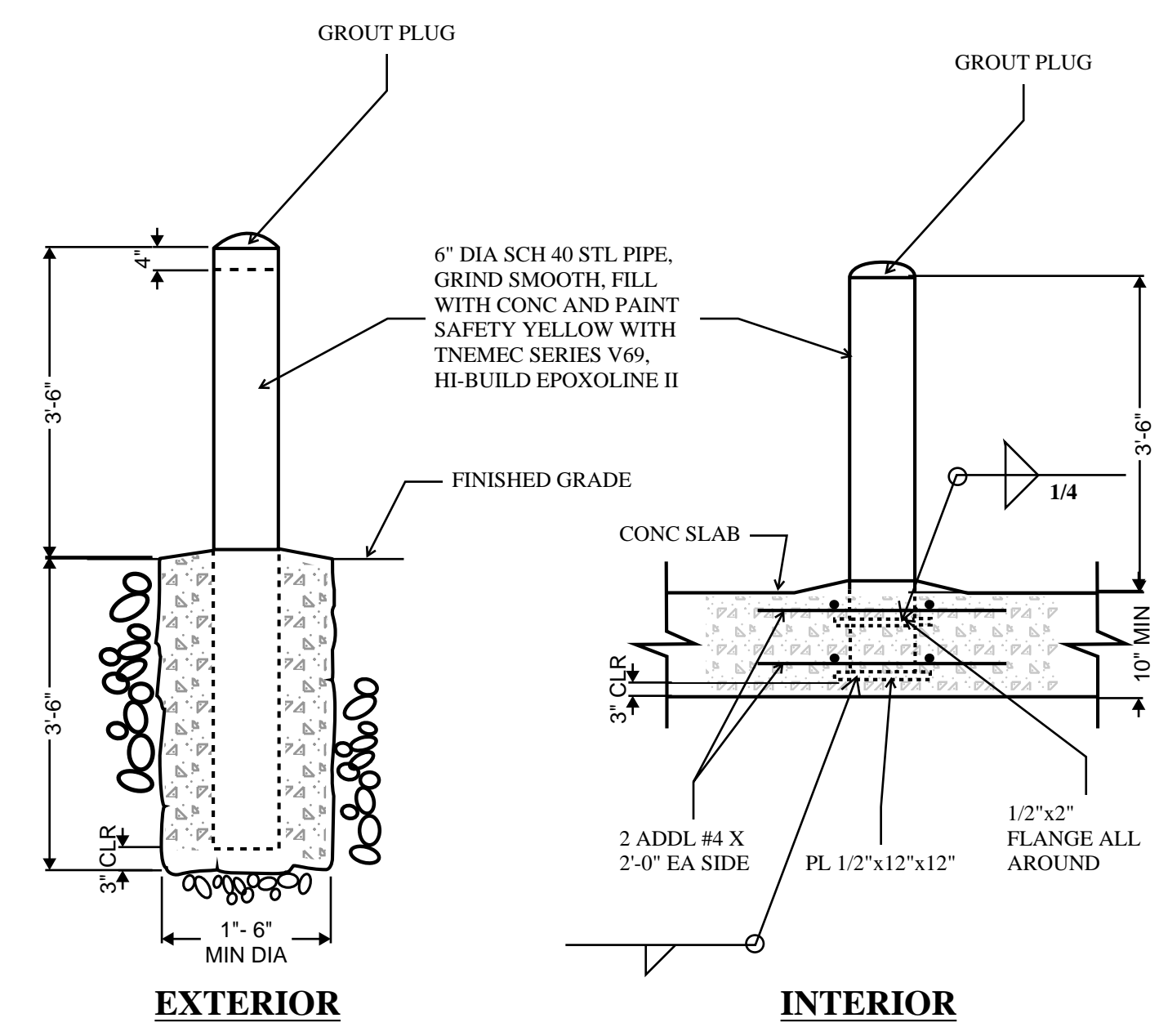


NOTES:

1. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER, AND SHALL BE AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A ONE PIECE TEMPLATE, MATCHING THE BASE PLATE, WHILE PAD IS BEING POURED.
2. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.

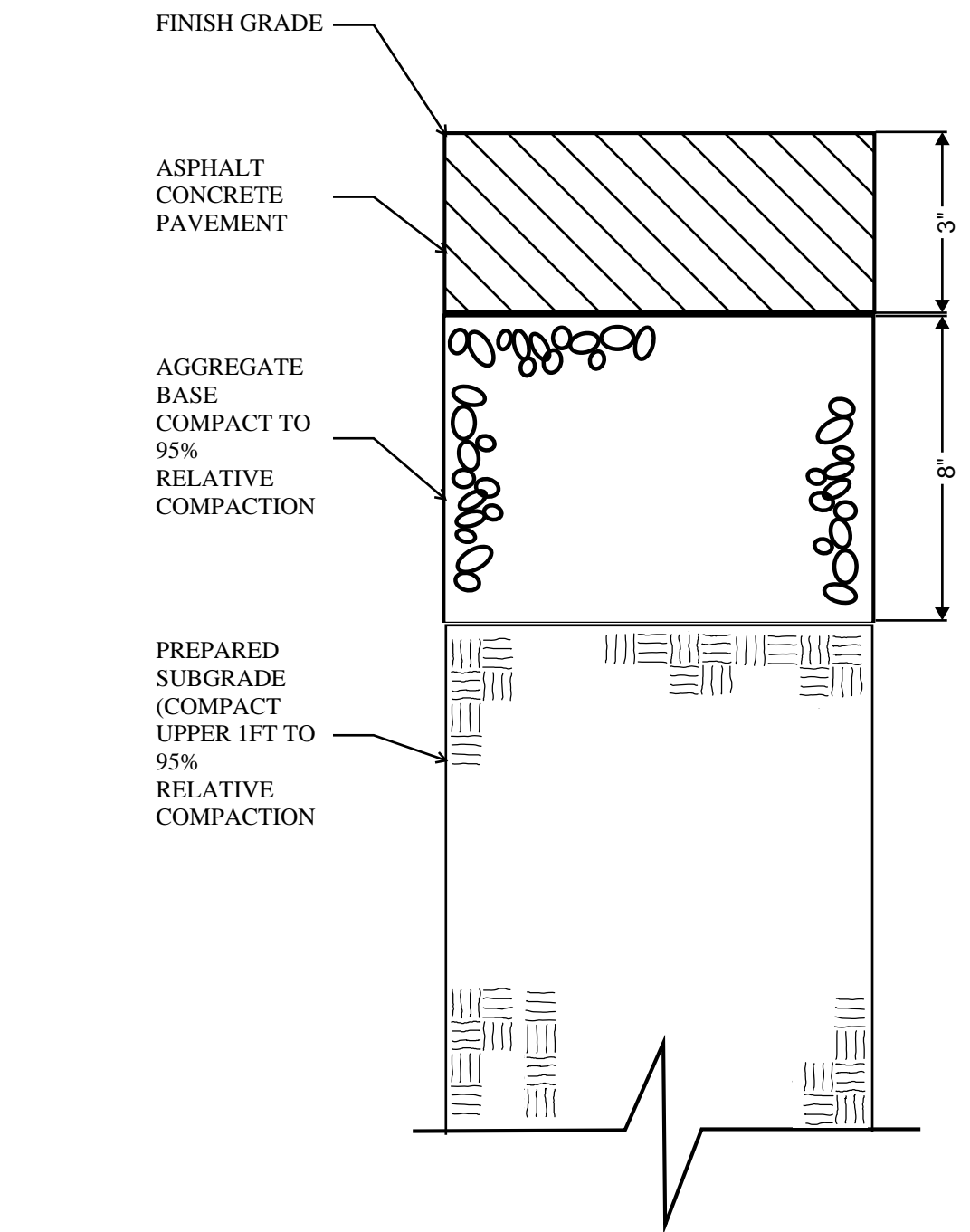
FAST CHARGER PAD
NTS

2



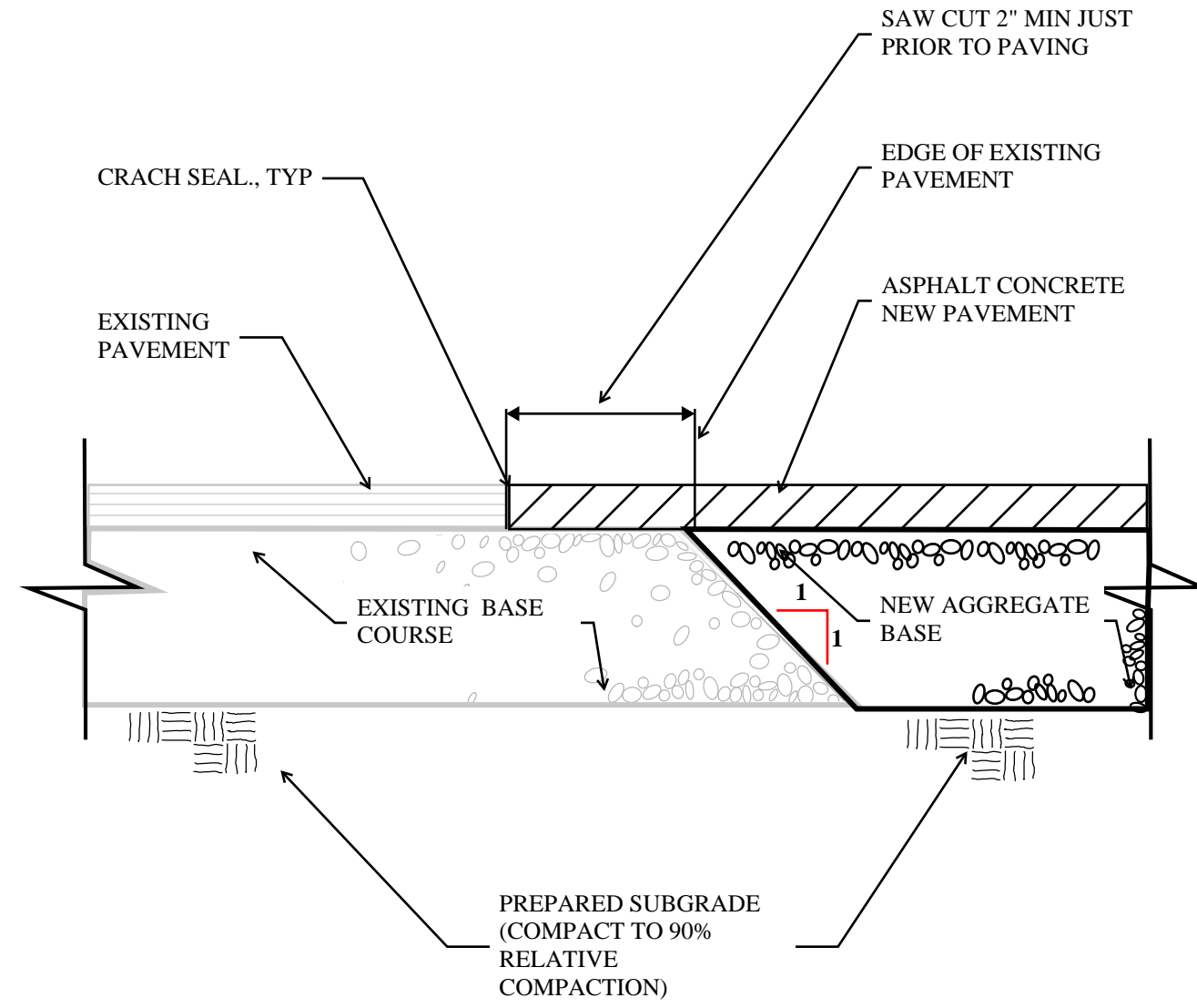
BOLLARDS
NTS

3



ASPHALT CONCRETE PAVEMENT
NTS

4



NOTES:

1. PAINT EDGE OF EXISTING ASPHALT WITH TACK COAT PRIOR TO PAVING. CRACK SEAL JOINT AFTER COMPLETING PAVING

PAVEMENT CONNECTION
NTS

5

REV.	DATE	DESCRIPTION
0	2/27/2026	BID SET

CITY OF SAN BRUNO
567 EL CAMINO REAL
SAN BRUNO, CA 94066
P: (650) 616-7058

CIVIL & STRUCTURAL DETAILS

225 HUNTINGTON AVE
SAN BRUNO, CA 94066

PROJECT NAME	SAN BRUNO CORP YARD EV CHARGERS PHASE 2
DESIGNER	CITY OF SAN BRUNO
DRAWN BY	TA
CHECKED BY	TA
DATE	02/27/2026
SCALE	AS NOTED
FLUSH	C-101
DATE	02/27/2026
PROJECT NUMBER	51035
SHEET SIZE	24" X 36"

Talha Amar